CONTROLLING OFFICER'S REPLY

(Question Serial No. 2260)

Head: (49) Food and Environmental Hygiene Department

Subhead (No. & title): (-) Not specified

Programme: (1) Food Safety and Public Health

Controlling Officer: Director of Food and Environmental Hygiene (Ms Irene YOUNG)

Director of Bureau: Secretary for Environment and Ecology

Question:

Rodent infestation is serious at markets in Sha Tin and Tai Po Districts, and the problem has existed for a long time without improvement. With regard to the initiatives to improve the current situation, please advise this Committee of:

1) the expenditure and effectiveness of the rodent control measures for Sha Tin and Tai Po Districts in the past 5 years;

2) the specific rodent control plans for Sha Tin and Tai Po Districts in the coming year, the preparation, resources and manpower required, as well as the expected effectiveness;

3) the estimated expenditure for procurement of new equipment in the coming year;

4) the amount and manpower involved for engaging outsourced service providers for rodent control;

5) the way by which the Food and Environmental Hygiene Department assesses the actual effectiveness of the technologies currently adopted for rodent control;

6) whether the Government has plans to introduce new rodent control technologies; if yes, the details and the estimated expenditure;

7) the way by which the Department determines the criteria for placing baits and traps, and its effectiveness;

8) the staffing and expenditure involved for overnight rodent control teams; and

9) the number of operations conducted by overnight rodent control teams in Sha Tin and Tai Po Districts in the past year.

Asked by: Hon LEE Tsz-king, Dominic (LegCo internal reference no.: 32)

Reply:

1) The overall expenditure of the Food and Environmental Hygiene Department (FEHD) on pest control services in the past 5 years (2018-19 to 2022-23) is tabulated as follows:

Year	**Overall expenditure on pest control services** Note **($ million)**
2018-19	630
2019-20	663
2020-21	726
2021-22	762
2022-23 (Revised estimate)	796

Note: The overall expenditure on pest control services includes government staff expenditure, the expenditure on service contracts in the year and other day-to-day operating expenses in this regard.

FEHD does not keep a separate breakdown of the expenditures of individual District Environmental Health Offices on rodent control services.

The statistics on pest control work and Rodent Infestation Rates (RIRs) of Sha Tin and Tai Po Districts in the past 5 years (2018 to 2022) are provided at **Annex 1**. The RIRs of both districts were below 10% in the past 5 years, denoting that rodent infestation was not extensive during the survey period.

2 and 3) In order to effectively deal with the rodent infestation problem, a cross-sectional, inter-disciplinary and public participation approach, as well as the joint efforts of all concerned departments, are required. To further enhance the effectiveness of rodent control, the Environment and Ecology Bureau launched the Cross-sectoral Territory-wide Anti-rodent Action (the Action) on 28 December 2022 to encourage different sectors in the community (including the pest control trade, property management companies, operators of market and hawker stalls, the catering industry as well as the construction industry) and members of the public to collaborate with the Government in anti-rodent work and enhance public awareness of rodent control.

FEHD takes a proactive role in the Action. Apart from continuing to step up the routine rodent control work, FEHD also studies and tries out new rodent prevention and control strategies to enhance the effectiveness of its anti-rodent work, and keeps on providing support and advice on rodent control for the relevant departments and industries. Specifically, the rodent prevention and control measures to be adopted by FEHD in 2023-24 include:

(a) continuing with the night rodent operations in all districts to enhance the effectiveness in capturing rodents;

(b) continuing to use new technologies, tools and baits, including wider application of T-shaped bait boxes at suitable locations, piloting the use of alcohol rodent trapping device in more public markets and refuse collection points and introducing glue traps to some public markets and indoor facilities with more serious rodent infestation, as additional rodent control methods;

(c) engaging 3 contractors to carry out a three-month project to assess the rodent infestation, draw up anti-rodent strategies and carry out anti-rodent work in 3 public markets respectively, with a goal to bring in the latest and most effective anti-rodent strategies and methods;

(d) extending the current trial scheme in phases after review to allow more food premises to place large-size waste containers in rear lanes and requiring such premises to strengthen rodent control, so as to improve the environmental hygiene and tackle the rodent problem in rear lanes;

(e) stepping up public education and publicity and reminding the public of the importance of rodent control, including organising the School Cleaning Video Production Competition in collaboration with the Education Bureau to further enhance students' awareness of environmental cleanliness and strengthen their understanding of rodent control;

(f) continuing to arrange health talks for building managers of private buildings, persons-in-charge of food premises, operators of market and hawker stalls, etc. to provide them with information and technical advice on rodent prevention and control; and

(g) exploring ways to improve the existing methodology of rodent surveillance and conducting trials on the use of thermal imaging cameras with artificial intelligence function for detecting rodent activities at individual survey locations. The aim is to assess the feasibility of formulating a more representative new Rodent Infestation Rate (RIR) to progressively replace the existing RIR, so as to better reflect the rodent infestation situation of the survey locations and facilitate the planning of anti-rodent operations at blackspots.

In addition, strategic anti-rodent operations are being conducted against over 100 priority rodent blackspots. More resources are deployed to improve the rodent infestation situations in these areas in a comprehensive and sustainable manner, striving to achieve the indicator set in the 2022 Policy Address, that is, to reduce the number of priority rodent blackspots at least by half by end-2023. A total of 8 priority rodent blackspots in Sha Tin and Tai Po Districts are covered in the operations.

The numbers of in-house staff and outsourced contractor staff engaged in the provision of pest control services under the Sha Tin and Tai Po District Environmental Health Offices are tabulated as follows:

District	In-house staff	Outsourced contractor staff
Sha Tin District	About 40	About 140
Tai Po District	About 30	About 110

The overall estimated expenditure of FEHD on pest control services in 2023-24 is $797 million. FEHD does not keep a breakdown of the estimated expenditure on procurement of new equipment for rodent control.

4) 2 175 staff engaged by the contractors provide pest control services, including rodent and mosquito control services. In 2023-24, the estimated expenditure of FEHD on outsourced service contracts for pest control is about $449 million.

5) FEHD adopts an integrated approach in rodent prevention and control. Such approach is mainly premised on the recommendations and technical guidelines of the World Health Organization, which includes the elimination of the 3 survival conditions of rodents, namely food, harbourage and passages. FEHD will, having regard to the actual circumstances of different environments, make timely adjustments to the rodent control strategy used for better anti-rodent effects. In 2022, the number of poison treatments of rodent infestation in building blocks was 113 083, the number of rodent trappings was 78 148, the number of dead rodents collected was 31 810, the number of live rodents caught was 45 422, and the number of rat holes filled by FEHD was 20 418. The overall RIR for the year was 3.3%. FEHD will continue to closely monitor the rodent infestation situations of all districts.

6) FEHD actively explores and introduces different methods and technologies to enhance the effectiveness of rodent control work. The new technologies tried out by FEHD in the past 3 years (2020-21 to 2022-23), their effectiveness and the expenditure involved are provided at **Annex 2**.

7) FEHD carries out a comprehensive rodent survey before conducting an anti-rodent operation. By observing the signs of rodent infestation, such as rodent droppings, smears, rat holes and footprints, an assessment on the availability of dispersal routes, food and harbourage of the rodent infestation spot is made to facilitate the decision on the rodent control method to be adopted (e.g. poisonous baiting, trapping or a combination of both). The quantities and locations for application of poisonous baits and setting of traps are also determined by the survey findings. FEHD keeps in view the consumption status of poisonous baits and rodent traps as well as the trapping result, and adjusts the measures as necessary. With regard to the baits, mixed use of different kinds of food is adopted to find out the attractiveness of the food, so as to determine the food to be used as the baits for trapping. As food preference of rodents varies by place and time, different baits are used under different circumstances to enhance the trapping effectiveness. In addition, "thermal imaging cameras" with artificial intelligence analytical function will be used at different locations in the territory to help pest control staff obtain a clearer picture of rodents' activities and their dispersal routes. Visual data collected at different points of time will be analysed to devise more targeted rodent prevention and control strategies.

8&9) Since July 2022, FEHD has set up 19 overnight rodent control teams in all districts under outsourced service contracts. In addition, 11 rodent inspection officers have been engaged to arrange and supervise the work of the teams. The information on the manpower and expenditure involved in 2022-23 is provided as follows:

Team/Post	**Number of teams**	**Number of staff**	**Expenditure (Revised estimate) ($ million)**
Overnight rodent control team	19	57	10
Rodent inspection officer	N.A.	11	4
Total	19	68	14

FEHD does not keep a breakdown of the number of operations conducted by the overnight rodent control teams in each district.

Annex 1

Statistics on pest control work and Rodent Infestation Rate of Sha Tin District from 2018 to 2022

Item	2018	2019	2020	2021	2022
Number of poison treatments of rodent infestation in building blocks	4 548	4 693	5 060	5 291	5 294
Number of rodent trappings	9 167	9 608	9 679	8 786	2 325
Number of dead rodents collected	858	1 018	1 118	1 237	1 298
Number of live rodents caught	703	766	737	799	1 253
Number of rat holes filled	910	922	956	1 036	1 108
Number of rodent control surveys	25	25	32	47	36
Rodent Infestation Rate	4.7%	3.4%	6.0%	1.5%	2.9%

Statistics on pest control work and Rodent Infestation Rate of Tai Po District from 2018 to 2022

Item	2018	2019	2020	2021	2022
Number of poison treatments of rodent infestation in building blocks	13 560	13 500	13 260	14 794	14 452
Number of rodent trappings	384	389	419	771	1 272
Number of dead rodents collected	771	780	771	1 126	1 692
Number of live rodents caught	585	591	589	713	957
Number of rat holes filled	902	754	503	126	448
Number of rodent control surveys	40	40	40	41	18
Rodent Infestation Rate	2.7%	4.5%	6.4%	3.6%	0.9%

Annex 2

Rodent control methods/technologies and the expenditure incurred

Rodent control method/technology	Effectiveness	Expenditure		
		2020-21	**2021-22**	**2022-23**
New design snap trap	The new design snap trap was tested in 5 districts and 6 markets between January and June 2020. Test results showed that it was effective in catching rodents. FEHD has introduced the use of the new design snap trap in its regular anti-rodent work.	About $3,000	No breakdown is available	No breakdown is available
Thermal imaging camera surveillance system	FEHD conducted trials on thermal imaging cameras with artificial intelligence analytical function in 2020 and found it effective in facilitating objective assessment of rodent infestation situation. The equipment is widely employed currently.	About $3.96 million	About $2.39 million	About $3.89 million
Placing poisonous baits in a T-shaped bait box	The bait box was tested between October and November 2020. Test results showed that the T-shaped bait box was more effective than ordinary rectangular bait boxes in attracting rodents to	About $20,000	-	About $580,000

Rodent control method/technology	Effectiveness	Expenditure		
		2020-21	2021-22	2022-23
	enter and consume the baits. The equipment is widely employed currently.			
Alcohol rodent trapping device	FEHD has conducted trials progressively on alcohol rodent trapping devices in public markets and refuse collection points since October 2022. The initial results are positive. FEHD will consider the introduction of alcohol rodent trapping devices in other suitable places under its management.	-	-	About $380,000
Glue trap	FEHD has tried out the application of glue traps in public markets with more serious rodent infestation as an additional measure for rodent disinfestation since November 2022. The initial results are positive. Further trials of the equipment are being conducted in 11 markets.	-	-	About $630,000

- End -