

# CENTRE FOR FOOD SAFETY: MANAGEMENT OF FOOD SAFETY

## Executive Summary

1. In 2017, over 90% of foods for human consumption in Hong Kong were imported. According to the Census and Statistics Department's published trade statistics, the total value of imported foods in the year was \$205,351 million. The Food and Environmental Hygiene Department (FEHD) has the mission of ensuring that food for sale in Hong Kong is safe and fit for consumption. In May 2006, the Centre for Food Safety (CFS) was established under the FEHD to control food safety in Hong Kong. The CFS works under the legal framework of two Ordinances:

- (a) the Public Health and Municipal Services Ordinance (Cap. 132) and its subsidiary legislation require that food intended for sale should be fit for human consumption. It covers general protection for food purchasers, offences in connection with sale of unfit food and adulterated food, and seizure and destruction of unfit food; and
- (b) the Food Safety Ordinance (Cap. 612) provides additional food safety control measures, such as and in particular a registration scheme for food importers/distributors.

In September 2006, the CFS set up the Expert Committee on Food Safety (the Expert Committee) which is tasked with advising the Director of Food and Environmental Hygiene on matters such as food safety operational strategies and measures.

2. The CFS adopts a risk-based approach to food safety control and works in the following areas:

- (a) ***Risk assessment.*** Food hazards (i.e. microbiological, chemical and radiological hazards) are evaluated and potential risks to the population are assessed, thereby facilitating formulation of appropriate risk management

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actions (see (b) below) and risk communication messages (see (c) below) to protect public health;

- (b) ***Risk management.*** Through food control offices set up across the territory, the CFS carries out import control of foods (e.g. inspecting imported foods). Through the Food Surveillance Programme (FSP), the CFS takes food samples at import, wholesale and retail levels for testing. The CFS also manages local and overseas food incidents, and handles food complaints in the territory; and
- (c) ***Risk communication.*** The CFS organises various programmes to promote food safety (e.g. communication forums) and disseminates information on food safety to the public through different communication channels (e.g. on its website, social media platforms and publications).

3. In 2013-14 to 2017-18, the CFS's expenditure had increased by 32% from \$448 million to \$592 million. The Audit Commission (Audit) has recently conducted a review of the CFS's management and control of food safety. The findings are contained in this Audit Report and in "CFS: Import control of foods" (Chapter 2 of the Director of Audit's Report No. 71). This Audit Report reviews matters relating to the assessment of food safety risks, food surveillance, management of food incidents and risk communication with the public.

### Assessment of food safety risks

4. The CFS carries out food consumption surveys (FCSs), total diet studies (TDSs) and risk assessment studies (RASs) periodically to help assess food safety risks (para. 2.2).

5. ***FCSs.*** An FCS collects data on the types and amounts of foods that people consume. A population-based FCS is crucial for establishing a comprehensive database for food safety risk assessment and enhancing the risk assessment capacity of the CFS. According to the CFS, the food consumption data collected is used to find out if the public is exposed to any potential dietary risks such as those from contaminants and food additives, and also to understand the size of the risk and which population groups may be most at risk. Such information is vital for the Government in formulating public policies and education strategies to promote food safety in Hong

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Kong. From March 2004 to March 2010, the first population-based FCS was conducted. In May 2017, the CFS engaged another contractor (a consultant) to conduct the second population-based FCS to gauge whether and how CFS's food safety risk assessment should be updated for the population's changes of dietary habits. According to plan, the contractor would conduct the FCS fieldwork from April 2018 to April 2019, during which food consumption data will be collected by two interviews with each respondent. Other information such as weight, height and demographic information will also be collected in the survey (paras. 2.2 to 2.4). Audit found the following:

- (a) ***Need to closely monitor the progress of the second population-based FCS.*** Audit examined the progress as at 30 July 2018 (i.e. some 15 weeks after fieldwork commencement in April 2018) and noted that:
  - (i) ***Slow progress.*** According to the contract, of the some 4,800 respondents to be surveyed, some 1,400 should have completed the survey by 30 July 2018. However, up to that day, the actual number of completed cases was only 278, falling short of the required number of 1,400 by some 1,100 (79%);
  - (ii) ***Low response rate.*** According to the FCS design, some 8,000 households would be invited with a view to recruiting 4,800 respondents. The underlying assumption was that 70% of the valid households would participate in the FCS. However, the initial response rate was only 42%, falling short of the expected rate; and
  - (iii) ***Insufficient service hours provided by the contractor.*** According to the contract, the contractor's interviewers should provide at least 210 hours of service per week. In the first 15 weeks, the total service hours provided were only 1,313 hours, falling short of the requirement of 3,150 hours (i.e. 210 hours per week  $\times$  15 weeks) by 1,837 hours (58%).

In late September 2018, the CFS informed Audit that it had instituted additional monitoring measures (e.g. requiring weekly progress reports from the contractor) and that the contractor had proposed rectifying measures (paras. 2.5 and 2.6); and

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- (b) *Need to conduct FCSs for the youth population.* In the two population-based FCSs, the youth population had not been adequately factored in. The first population-based FCS covered the population aged 20 to 84, while the second one would cover the population aged 18 or above. As at 31 August 2018, the CFS had not embarked on a separate FCS covering the younger age group (paras. 2.8 and 2.9).

6. *Scope for enhancing TDSs.* According to the CFS, a TDS has been recognised internationally as the most cost-effective way to estimate dietary exposure to food chemicals or nutrients for various population groups and to assess their associated health risks. It provides a scientific basis for assessing food safety risks and regulating food supply, and can facilitate risk managers to focus their limited resources on food chemicals or nutrients that may pose the greatest risks to public health. However, a TDS is a large and complex exercise. For a particular substance of concern, the local population's day-to-day total dietary exposure to the substance is estimated by multiplying its concentration in a relevant food (i.e. a food which may contain the substance) by the population's daily consumption amount of the food, and summing up the dietary exposure from all relevant foods. The estimated exposure is then compared to the relevant tolerable intake of the substance of concern in assessing the associated health risks. During March 2010 to December 2014, the CFS conducted the first TDS to cover majority of foods consumed by the Hong Kong population. A total of 146 substances of concern (e.g. pesticide residues) were covered, and a total of 150 foods were selected based on the dual criteria of the frequency of consumption of the food and the likelihood of the food containing high concentration of concerned substances. According to the results of the first TDS, the CFS concluded that the population in Hong Kong was unlikely to experience any adverse health effects due to the dietary exposure to the substances covered in the TDS. In October 2015, the CFS completed an evaluation of the TDS and identified scope for enhancing the TDS. For example:

- (a) some substances of high concern (e.g. formaldehyde) were not studied in the TDS; and
- (b) for the substances studied, some foods which might contain high concentrations of the substances were not covered in the TDS (paras. 2.14 to 2.17).

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7. **RASs.** An RAS is a comprehensive review and analysis of a food related hazard (e.g. chemical hazards and microbiological hazards) that is of public health significance. The CFS conducts a number of RASs every year, some by itself (i.e. own studies) and some in cooperation with the Consumer Council (CC) (i.e. joint studies). Findings and recommendations of the RASs are disseminated to the public through press releases, education pamphlets and guidelines for the trade. For conducting RASs, the CFS submits an annual plan to the Expert Committee for the selection of studies. From 2008-09 to 2018-19, 50 studies had been selected. As at 31 August 2018, 45 of the 50 studies had been completed (paras. 2.20 to 2.22 and 2.28). Audit noted that:

- (a) ***Need to monitor implementation of the new mechanism for selecting RASs.*** In selecting studies for inclusion in an annual plan, the CFS applied a number of criteria (e.g. whether the study was of significance in terms of public health). In September 2017, the Expert Committee suggested that the selection of RASs could be improved by introducing a scoring system. In late September 2018, the CFS informed Audit that it had introduced the suggested scoring system, which took effect in September 2018. The CFS needs to ensure that the new mechanism is implemented properly as intended (paras. 2.23 to 2.26); and
- (b) ***Need to facilitate understanding of study results.*** Of the 45 completed RASs, 25 were the CFS's own studies, of which 2 studies were for internal reference only. For the remaining 23 studies, the CFS had published study reports on its website and had provided certain supplementary information (e.g. guidelines and advice) to enhance the public's understanding. However, for 9 of the 23 study reports, the links to the supplementary information and those to the study reports were posted on different webpages of the CFS website, making it difficult to locate the relevant information (paras. 2.27 and 2.28).

## Food Surveillance Programme

8. ***Formulation of the FSP.*** The CFS's FSP is designed to control and prevent food hazards. It is a key component of the CFS's food safety assurance programme and is aimed to find out the safety of food supply. The CFS adopts a risk-based approach to formulating the FSP. The number of projects and food samples under the FSP, as determined by the CFS in consultation with the Expert Committee, might differ between years. Under the FSP, food samples are taken by food

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inspectors/sampling officers at the import, wholesale and retail levels of the food chain for microbiological testing (e.g. conduct of overall bacterial counts), chemical testing (e.g. testing of food additives) and radiation testing (i.e. measuring the level of radioactive substances). In 2017, the FSP had 144 projects, which comprised 138 surveillance projects (i.e. food samples taken for surveillance purposes) and 6 follow-up projects (i.e. food samples taken for following up food incidents, complaints and unsatisfactory testing results of surveillance projects). A total of 66,979 food samples were taken under the 144 projects. For each project, the FSP set out a sampling plan (i.e. the number of samples to be taken from each level of the food chain and the composition of samples by food group) and the type of testing to be conducted (e.g. chemical testing) (paras. 3.2 to 3.5 and 3.15). Audit examined the FSPs of 2015, 2016 and 2017 and noted that:

- (a) ***Room for covering more potential food hazards.*** Certain potential food hazards had not been covered for surveillance under the FSPs. Such hazards included those which were regulated by the law, those which exceeded certain thresholds and required the CFS's follow-up actions, and those which had resulted in a food safety incident. There is merit for the CFS to consider expanding the coverage of potential food hazards for surveillance under the FSPs in future (paras. 3.6 and 3.8); and
  - (b) ***Surveillance of a large amount of food items which were not high-risk.*** From 2015 to 2017, a large proportion (ranging from 44% to 46%) of food samples were allocated to surveillance of fruits and vegetables. However, according to the CFS, vegetables were not considered to be high-risk foods (paras. 3.9 and 3.10).
9. ***Implementation of the FSP.*** Audit examined the implementation of the 2017 FSP and noted that:
- (a) ***Need for guidelines on taking food samples.*** The CFS had not laid down specific guidelines on taking food samples from different food outlets and food types. CFS staff therefore used their experience and discretion to implement the sampling plan of each project (see para. 8). There were wide variations in the ways samples were taken from different types of outlets (e.g. supermarkets, grocery shops and wet markets) and from different food types (e.g. fish samples taken from different types of fishes) (para. 3.16);

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- (b) ***Need to better address the food safety concerns of online purchase.*** The CFS sets aside about 4,000 food samples of surveillance projects every year for online purchase. In 2017, 3,868 food samples were purchased online, comprising 3,587 samples (93%) purchased for chemical testing and radiation testing, and 281 samples (7%) purchased for microbiological testing (e.g. conduct of bacterial counts). According to the CFS, ready-to-eat food items that are required to be refrigerated, such as sushi and desserts (and which could be ordered online), generally pose great food safety risks. There might be risks of bacterial growth during delivery. In view of growing popularity of online food purchase in recent years, the proportion of online samples purchased for microbiological testing was on the low side (paras. 3.17 and 3.18); and
- (c) ***Need to comply with sampling requirements.*** Audit examined 10 surveillance projects in 2017 (involving 5,304 food samples) and found cases of non-compliance with sampling requirements of the FSP in 6 projects. For each of the 6 projects, the FSP required that no more than two samples should be taken from the same shop. However, the requirement had not been followed in taking 493 samples at 104 shops (para. 3.19).
10. ***Long turnaround time and need to ensure timely delivery of food samples to laboratories.*** Food samples were delivered to different laboratories for testing. The turnaround time refers to the time lag between the collection of a food sample and the subsequent return of the testing result from the laboratory concerned. Audit analysed the turnaround times for 10 surveillance projects in 2017 (involving 2,125 food samples and 4,494 testing results). Audit found that the longest turnaround time was 230 days. Audit further analysed the long turnaround times for 20 samples and found that, for 18 samples, there was a delay in delivering the samples to the laboratories, which ranged from 19 to 203 days. In July 2018, the CFS informed Audit that there were no specific guidelines on the timeliness of delivering food samples to laboratories (paras. 3.24 to 3.27).

## Management of food incidents and complaints

11. ***Management of food incidents.*** The CFS defines “food incident” as any event where there is concern about actual or suspected threats to the safety or quality of food that could require intervention to protect public health and consumer interests.

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In 2013 to 2017, the number of local food poisoning cases referred to the CFS for investigation ranged from around 190 to 290 each year. The CFS identifies food incidents through the Food Incidents Surveillance System (FISS). In 2013 to 2017, food incidents detected through the FISS had risen by 28% from 1,339 to 1,713. Under the System, the CFS detects overseas and local food incidents through screening websites of national food authorities and receiving notifications from them, as well as consulting academia reports and media reports. The CFS also gathers intelligence on food incidents through investigating food complaints, and following up FSP projects which involve unsatisfactory testing results. For food incidents identified, the CFS conducts initial assessments to find out those requiring further actions for risk management. Such further actions include incident investigations (e.g. checking local availability of the affected products), evidence collection (e.g. taking samples for testing), control measures (e.g. recalling the products) and public announcement (e.g. publicising the food incidents through press releases) (paras. 1.8, 4.2 and 4.3). Audit noted that:

- (a) ***Long time had elapsed before unsatisfactory testing results were publicised.*** In 2017, investigation of food complaints and FSP projects had resulted in 106 cases of which the testing of food samples was found to be unsatisfactory. It was the CFS's practice to publicise the unsatisfactory testing results (e.g. by issuing a press release). However, the time taken between the collection of food samples in the first instance and the subsequent publicising of unsatisfactory testing results averaged 19 days, ranging from 1 to 88 days. For some cases, the long time taken was due to the substantial time taken in testing samples and/or the delay in publicising the results after the completion of testing (paras. 4.4, 4.5 and 4.7);
- (b) ***Need to better monitor recall of foods.*** In 2013 to 2017, food incidents resulting in food recall exercises increased from 6 to 23. According to the CFS's guidelines, the trader concerned should at the CFS's request, provide the CFS with reports at regular intervals giving essential information (e.g. results of the recall). However, the 23 exercises in 2017 were not entirely effective. On the whole, 51% (by quantity) of the products which had left the manufacturers were not returned in the 23 exercises. Furthermore, CFS records indicated that in the 23 recall exercises, the CFS did not request traders to provide regular reports for monitoring the effectiveness of the recall (paras. 4.3, 4.8, 4.9 and 4.11); and



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- (c) ***Need to ensure proper disposal of recalled foods.*** According to its guidelines, the CFS would make sure that foods recalled in voluntary exercises were properly disposed of (i.e. destroyed or suitably improved). However, the guidelines had not specified the ways to ensure proper disposal of recalled foods. As a result, the disposal practices varied between cases. Of the 19 cases in 2017 where disposal was required, the disposal was not conducted under CFS supervision for 7 cases (para. 4.12).
12. ***Management of food complaints.*** According to the CFS's guidelines, food complaints lodged with the FEHD are firstly handled by district environmental hygiene offices of the districts concerned. They are then forwarded to the CFS for investigation. In 2017, 5,569 food complaints were forwarded to the CFS (para. 4.15). Audit noted that:
- (a) ***Need to compile regular management information.*** From 2014 to 2017, the number of food complaints forwarded to the CFS increased by 30% (1,275 complaints) from 4,294 (2014) to 5,569 (2017). While the increase in certain types of complaints was particularly high (e.g. 188% increase in "fake/counterfeit food"), it was not the practice of the CFS to compile regular management information on food complaints. Such information would provide useful information for monitoring food complaints and surveillance of food safety (paras. 4.16 and 4.18); and
- (b) ***Need to expedite investigation of complaints.*** For the 5,569 complaint cases in 2017, Audit analysed the time lag between the complaint dates and the CFS's eventual closing of the complaint cases. The time lag was more than 30 days in 3,389 (61%) cases, including 38 (1%) cases where the time lag was more than 240 days. The long time taken to investigate and close some complaint cases was not conducive to ensuring food safety (paras. 4.19 and 4.20).

## Communicating with the public on food safety risks

13. ***Communication matters.*** The CFS communicates with the public on food safety matters through a number of channels, including the Internet, CFS publications, forums for the public and the trade, and talks and exhibitions (para. 5.2). Audit noted that:

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- (a) ***Need to better communicate official advice to the public.*** Besides the CFS, other organisations (e.g. the CC and universities) also conducted food studies. Audit examined 7 food studies on harmful substances published in January 2017 to June 2018 by two of these organisations. The findings of these studies were matters of public concern (e.g. contaminants detected in foods). In response to these findings, the CFS posted its views and advice on the matters on its website and/or Facebook page. In Audit's view, the CFS is the authority responsible for food safety in Hong Kong. A press release is a key and effective means of communicating the CFS's official views and advice to the public (paras. 5.3 and 5.5); and
  - (b) ***Need to enable viewing of talks on the Internet.*** The CFS delivers talks to the public, the trade and schools. From 2013 to 2017, the number of talks organised for the public had decreased by 34% while the number of attendees had decreased by 28%. For the trade, the number of talks had decreased by 24% while the number of attendees had decreased by 26%. Upon enquiry in August 2018, the CFS informed Audit that the public's habits of obtaining information had been changing from relying on traditional means (e.g. attending talks) to accessing online information. However, the CFS had not made arrangements to facilitate people viewing its talks on the Internet (e.g. online broadcasting and placing recorded talks on the Internet) (paras. 5.6 and 5.7).
14. ***Scope for improving implementation of charters.*** The CFS has implemented two charters to promote food safety. One is the Food Safety Charter which was introduced in 2008. It provides facilitation for the trade to incorporate food safety measures in day-to-day practices. Signatories of the charter include restaurants and food production premises. The other charter is the "Reduce Salt, Sugar, Oil. We Do" Charter which was introduced in December 2014. It calls for the active participation of Food Safety Charter signatories to help members of the public reduce the intake of salt, sugar and oil when dining out (para. 5.13). Audit noted that:
- (a) ***Limited number of signatories.*** The number of signatories of the Food Safety Charter had decreased from 2,000 in 2012 to 1,400 in 2018 (which accounted for about 5% of the number of all food premises). The number of signatories of the "Reduce Salt, Sugar, Oil. We Do" Charter had remained at 37 in recent years (para. 5.14(a));

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- (b) ***Promotion of the charters could be improved.*** For example, while a function for searching signatories was provided in the CFS mobile application for the Food Safety Charter, a similar function was not provided for the “Reduce Salt, Sugar, Oil. We Do” Charter (para. 5.14(b)); and
- (c) ***Performance of signatories required monitoring.*** Audit randomly selected 9 signatories of the Food Safety Charter for visits. Of these 9 signatories, 2 were no longer in business, and only 3 of the remaining 7 signatories displayed the charter’s certificate or stickers as required under the charter (para. 5.14(c)).

## Audit recommendations

15. **Audit recommendations are made in the respective sections of this Audit Report. Only the key ones are highlighted in this Executive Summary. Audit has *recommended* that the Director of Food and Environmental Hygiene should:**

### ***Assessment of food safety risks***

- (a) **continue to closely monitor the progress of the second population-based FCS and the performance of the contractor to ensure timely completion of the FCS (para. 2.12(a));**
- (b) **keep in view the need for expediting the conduct of an FCS covering the youth population and take necessary measures to launch the FCS in a timely manner (para. 2.12(b));**
- (c) **having regard to the evaluation results of the first TDS, take necessary measures to improve the conduct of TDSs in future (para. 2.18);**
- (d) **monitor the operation of the new mechanism for selecting RASs to ensure that it is implemented properly as intended (para. 2.30(a));**
- (e) **to facilitate the public’s understanding of RAS results, post the links to RAS reports and those to the relevant supplementary information on the same webpages (para. 2.30(b));**

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### ***Food Surveillance Programme***

- (f) **keep under review and, where appropriate, update the FSP (para. 3.13(a));**
- (g) **explore, from time to time, room for reallocating food samples designated for the surveillance of low-risk foods (e.g. fruits and vegetables) to other uses (e.g. the surveillance of high-risk food hazards) (para. 3.13(b));**
- (h) **provide CFS staff with guidelines on taking food samples from different food outlets and food types (para. 3.22(a));**
- (i) **review the need for increasing the proportion of online food samples purchased for microbiological testing (para. 3.22(b));**
- (j) **take measures to step up the supervision of sampling work, with a view to preventing recurrence of non-compliance with sampling requirements in future (para. 3.22(d));**
- (k) **closely monitor the turnaround time of food sample testing, and take necessary measures to reduce the turnaround time as appropriate (para. 3.28(a));**
- (l) **lay down guidelines on the timeliness of delivering food samples to laboratories for testing (para. 3.28(b));**

### ***Management of food incidents and complaints***

- (m) **closely monitor the time taken between taking food samples and publicising unsatisfactory testing results of the samples, and take necessary measures to minimise the time taken (para. 4.13(a));**
- (n) **request traders to provide reports for monitoring the progress of food recall exercises (para. 4.13(c));**
- (o) **closely monitor the effectiveness of food recall exercises and take measures to improve the effectiveness as appropriate (para. 4.13(d));**

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- (p) **provide staff with guidelines on the proper disposal of recalled foods (para. 4.13(e));**
- (q) **consider compiling regular management information on food complaints to facilitate monitoring of food complaints and surveillance of food safety (para. 4.23(a));**
- (r) **take measures to expedite the investigation of food complaints (para. 4.23(c));**

### ***Communicating with the public on food safety risks***

- (s) **regarding findings of other organisations' food studies published in the public domain, keep in view the need for the CFS to offer its official views and advice through the most appropriate means, taking into account relevant factors such as public concern and gravity of the matter (para. 5.11(a));**
- (t) **make arrangements for viewing of the CFS's food safety talks on the Internet (para. 5.11(b)); and**
- (u) **conduct a review of the two charters on food safety (para. 5.16).**

## **Response from the Government**

16. The Director of Food and Environmental Hygiene agrees with the audit recommendations.