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Panel on Food Safety and Environmental Hygiene

**Background brief prepared by the Legislative Council Secretariat
for the meeting on 11 February 2014**

Total Diet Study in Hong Kong

Purpose

This paper provides background information on the Total Diet Study ("TDS") in Hong Kong conducted by the Centre for Food Safety ("CFS") and highlights the concerns of members of the Panel on Food Safety and Environmental Hygiene ("the Panel") on the subject.

Background

2. According to the Administration, TDS is recognized internationally as the most cost effective way to estimate the dietary exposures to food chemicals or nutrients for various population groups and to assess their associated health risks. It provides the scientific basis for assessing food safety risks and regulating food supply, and also helps risk managers focus their resources on the food chemicals or nutrients that pose the great risks to public health. Various countries, such as the United Kingdom, the United States of America, Canada, Australia, New Zealand and Mainland China, have conducted their own TDS and are regularly updating the results.

3. In February 2007, CFS formed a Task Force on TDS, with representatives from the Department of Health and Government Laboratory ("GL"), to formulate the plan and monitor the progress of the first TDS in Hong Kong. According to the information obtained on the CFS website, the first Hong Kong TDS was commenced in March 2010 and will be completed in 2014. The study aims to estimate dietary exposures of the Hong Kong population and various population sub-groups to a range of substances, including contaminants

and nutrients, and thus assess any associated health risks.

4. Availability of population food consumption data is a pre-requisite for the conduct of a TDS. The first step of a TDS is to conduct a Food Consumption Survey ("FCS"). In 2004, the Chinese University of Hong Kong ("CUHK") was commissioned to conduct the Hong Kong Population-based FCS. CFS released the FCS report in April 2010. Based on the food consumption data of FCS, a TDS food list containing 150 different food items is developed. It covers majority of food commonly consumed by the Hong Kong people. Over 130 substances, including contaminants and nutrients, are analysed in groups for their concentrations in the food samples. Dietary exposures to the substances of different groups within the Hong Kong population, including people with average and high exposure level to different substances, and various population sub-groups, will be estimated based on the FCS data and the laboratory analysis of the food samples. To assess the associated health risks, the dietary exposure estimated will then be compared to the relevant safety reference values for the food chemical of concern, and the nutritional reference values for the nutrient of concern.

5. Reports of the first Hong Kong TDS are released in phases. Between December 2011 and December 2013, seven study reports have been published on the CFS website on topics in relation to dioxins and dioxin-like polychlorinated biphenyls, inorganic arsenic, polybrominated diphenyl ethers, pesticide residues, metallic contaminants, acrylamide and mycotoxins.

Deliberations of the Panel

6. At its meeting on 11 May 2010, the Panel was briefed by the Administration on the progress of the first TDS conducted in Hong Kong. Members were concerned about how the findings of TDS could safeguard public health. The Administration advised that with accurate information on the population's total dietary exposure to toxic chemicals and nutrients, appropriate risk management actions could be formulated to protect public health. Members were assured that CFS would alert the public of the health risks of the dietary exposures to certain substances in a food item detected during the conduct of TDS in the first instance if the risk concerned was significant.

7. In response to members' enquiry about the cost involved in conducting TDS, the Administration advised that the fees for commissioning CUHK to conduct the Hong Kong population-based FCS from 2005 to 2007 and to carry out sampling and food preparation of TDS from March 2010 to February 2011 were \$4 million and \$1.4 million respectively. No addition cost would be incurred by CFS for TDS as laboratory analysis of food samples would be performed by the Food Research Laboratory of CFS or GL using existing

resources.

8. When discussing the subject of the announcement mechanism of CFS at the Panel meeting on 10 January 2012, a query was raised about the announcement arrangement for revealing the results of TDS. The Administration advised that TDS was a prolonged study which included more than a hundred kinds of substances for their associated health risks. While the entire Hong Kong first TDS would be completed in 2014, the study on dioxins was the first part of the Hong Kong TDS completed in 2011. As dioxin levels of all samples assessed were satisfactory, it was considered that no immediate announcement was necessary. The results of the study on dioxins were announced through a press conference and press release in December 2011.

Latest Development

9. The Administration will update the Panel on the progress of TDS at the meeting on 11 February 2014.

Relevant papers

10. A list of the relevant papers on the Legislative Council's website is in the **Appendix**.

Council Business Division 2
Legislative Council Secretariat
5 February 2014

Relevant papers on Total Diet Study in Hong Kong

| Committee | Date of meeting | Motion/ Question / Paper |
|--|------------------------|---|
| Panel on Food Safety and Environmental Hygiene | 11.5.2010 (Item V) | Agenda Minutes |
| Panel on Food Safety and Environmental Hygiene | 10.1.2012 (Item V) | Agenda Minutes |

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