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Panel on Food Safety and Environmental Hygiene

**Background brief prepared by the Legislative Council Secretariat
for the meeting on 12 March 2013**

Avian influenza vaccination programme in local chicken farms

Purpose

This paper summarizes the concerns of the members of the Panel on Food Safety and Environmental Hygiene ("the Panel") on the avian influenza ("AI") vaccination programme in local chicken farms.

Background

2. AI is caused by influenza viruses that mainly affect birds and poultry. Among the different groups of AI viruses, H5N1 is of particular concern because it has a recognized ability to pass directly from birds to humans. The first AI outbreak occurred in 1997. To reduce the risk of AI outbreaks in Hong Kong, the Administration has adopted a preventive and surveillance programme, including tight biosecurity measures and vaccination at local farms, import control and stringent hygiene requirements at wholesale and retail markets.

3. In 2002, the Administration introduced a vaccination programme on a trial basis to assess the potential role of vaccination for the control of H5N1 AI virus in Hong Kong. Based on the results of the trial programme and related studies, the Administration introduced the mandatory AI vaccination programme for chickens in local farms in June 2003 using the Intervet Nobilis H5N2

vaccine ("the Intervet vaccine"), which was a commercially available vaccine containing an inactivated H5N2 virus. Since then, there has been one reported AI outbreak on a local chicken farm in Yuen Long in December 2008. The Administration subsequently set up the Investigation Group on Vaccine Study ("IGVS") to conduct research and tests on the efficacy of the existing Intervet vaccine used in Hong Kong and to explore alternative vaccines.

4. With the endorsement of IGVS, the Agriculture, Fisheries and Conservation Department launched a one-year field trial of the Harbin Re-5 H5N1 vaccine ("the Re-5 vaccine") in November 2010 to evaluate its efficacy and observe whether it would have any adverse effect on chickens under local conditions. The trial results together with the previous vaccine challenge studies indicated that the Re-5 vaccines not only offered similar safety and efficacy as the Intervet vaccine, but also conferred better protection against strains of H5N1 virus. As such, Re-5 vaccine was introduced as an alternative to the current Intervet vaccine for use in the local chicken farms in Hong Kong.

Deliberations of the Panel

5. The Panel discussed the field trial programme of the Re-5 vaccine and the latest development on AI vaccines for local chicken farms at two meetings in January 2011 and June 2012 respectively. The deliberations and concerns of members are summarized below.

Use of the Re-5 vaccine

6. Noting that the Administration would conduct a one-year field trial of the Re-5 vaccine to evaluate its efficacy and effects on chickens under local conditions, some members were concerned about the risk of AI outbreaks during the trial period and the impact on the livelihood of nearby chicken farmers in case of an AI outbreak in the participating farms as the Administration would, in accordance with the existing arrangement, cull all the chickens in the farm concerned and the nearby farms. They sought information on the measures to be taken in case of AI outbreaks in the participating farms.

7. The Administration advised that should there be any irregularities in any of the participating farms during the trial period, it would take actions in

accordance with the established preparedness plan. The Administration would monitor closely the situation of the vaccinated chickens and stay vigilant against AI throughout the trial period.

8. Concern was raised as to whether AI would evolve and become stronger after the introduction of the Re-5 vaccine. Members were advised that the genetic drift of AI viruses occurred naturally under different environments. Vaccination would not necessarily be the cause of any sort of antigenic drift. In fact, vaccination would slow down the spread of virus, allow time to stamp out infected farms and avoid the further spreading of virus to neighbouring farms. The Administration would regularly monitor the genetic drift of AI virus in different regions, keep track of its circulating strain and choose the appropriate vaccine that best matched the prevailing clade.

9. On the cost and use of the Re-5 vaccine, members were advised that the average cost per dosage of the Re-5 vaccine was less than HK\$1, which was roughly half of that of the Intervet vaccine. Chicken farmers might choose to swap to the Re-5 vaccine or continue to use the Intervet vaccine.

New Re-6 H5N1 AI vaccine ("the Re-6 vaccine")

10. Noting that the new Re-6 vaccine would be introduced in the Mainland, members sought information on the efficacy of this new vaccine and whether consideration would be given to replacing the Re-5 vaccine with the Re-6 vaccine.

11. According to the Administration, the Re-6 vaccine was being developed by the Harbin Veterinary Research Institute to match a strain of AI virus which was prevalent in the region. The Administration would keep in view the development of the Re-6 vaccine and consider introducing it into Hong Kong when its efficacy, safety and quality were proven.

Recent development

12. At the special meeting of the Panel on 21 January 2013 to receive a briefing from the Secretary for Food and Health on the 2013 Policy Address in relation to food safety and environmental hygiene matters, members noted that

with the endorsement of IGVS, the Administration had introduced since November 2012 the Re-6 vaccine that conferred better protection against the predominant strain of AI virus circulating in wild birds in the region. It was expected that all local poultry would be vaccinated with the Re-6 vaccine by mid 2013.

Relevant papers

13. A list of the relevant papers on the Legislative Council website is in the **Appendix**.

Council Business Division 2
Legislative Council Secretariat
6 March 2013

**Relevant papers on the Avian influenza vaccination programme
in local chicken farms**

Committee	Date of meeting	Paper
Panel on Food Safety and Environmental Hygiene	11.1.2011 (Item III)	Agenda Minutes
Panel on Food Safety and Environmental Hygiene	12.6.2012 (Item IV)	Agenda Minutes

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