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Comments submitted by Professor Frederick C. Leung to the Panel on Food Safety and Environmental Hygiene meeting on June 16, 2008.

Dear Chairman, fellow members, and members of the poultry industry sectors:

Thank you for inviting me to this meeting and to present my view! First, I want to declare that my views presented here at this meeting are solely my personal views and not the views of my employer, professional, academic and government societies and committees.

One of the main reasons that I accepted the invitation to come and share my views is that it is my view that public safety is the first and most important principle and it is as important that we are not generating unnecessary public FEAR by over blowing and/or misrepresenting FACTS. Yes, I agreed with the OIE recommendation that we cull all chickens infected with the High Pathogenic Avian Influenza (HPAI) H5N1 but I do not agree to cull non-infected chickens. Therefore, I want to use my allowable time to provide the reasons and scientific facts leading to my conclusion that the most recent event of killing of all the chickens in the live bird markets in a media staged setting is doing more harm to public than to protect the general public.

## Background information:

Since 1997 till now, the HPAI H5N1 is an animal, more specific an avian virus and not a human virus. On occasions it can cross over and infected human not efficiently and scientists have little knowledge on exactly how.

HPAI H5N1 has been with us since 1997 and we still do not know the source of infection. Limited data suggest that the efficiency of this HPAI H5N1 avian virus cross over to infect human is very low based on the past 10 years data.

Many people have direct contact with chickens and very few were found to be infected with HPAI H5N1. Limited sero-conversion data found in human (specifically from people with directed contact with chickens like farmers and people who work in the live market and industries that handled chickens) suggest that a small number of human indeed had been infected most-likely by the HPAI H5N1 but showed no signs or mild sign of influenza symptoms.

I have voiced the opinion back in 1997 that killing all the chickens in Hong Kong will

NOT stop the occurrences of HPAI HSN1 in Hong Kong. Most if not all of the HPAI H5N1 cases in the past years before now are found in dead wild birds in the middle of the Hong Kong urban city setting. Question asked is where the sources of this HPAI H5N1 are and where the wild birds got infected? We still do not have the answers after all these years!

Hong Kong Government since 1997 has promised to find the source/origin of the HPAI H5N1 and have commissioned a number of scientific investigators projects to work on these questions but so far no concrete answers! These questions included but not limited are: 1. Where is the natural reservoir for the HPAI H5N1? 2. Does this HPAI H5N1 evolved from a LPAI H5N1 and which specie harbors the LPAI H5N1? 3. Since scientists commissioned by the Government have reported a number of occasions that HPAI H5N1 were isolated from "apparently healthy" chickens based on molecular sequences and eggs assays, have these scientists provide further the investigations and provided the true health risk to chicken and to mammals including human? etc, etc.

Views related to the recent culling of live market chickens:

HPAI H5N1 was found first in 5 fecal environmental samples in a single live bird market leading to the culling of that single live market's chickens. Positive environmental samples were then found in three more live bird markets led to the culling of all live bird market chickens and imposed moratorium of all live chickens in Hong Kong.

However, no abnormal numbers of dead chickens were reported and no abnormal number of sickness of influenza symptoms were reported by the people working in the live bird market.

My opinion is that chickens from the first live bird market should have been checked whether they were infected with the HPAI H5N1 and the level of antibodies titer under the assumption that all birds have been vaccinated. These results will identify birds infected with the HPAI H5N1 as well as the farm which the chicken came from. Proof will also be collected if the chickens were indeed smuggling chickens! Culling all the chickens before finding the data will just give the virus a chance to hide! I have voiced this view to collect data before culling all the chickens back in 1997 until now but received no comments from the Government.

It is my view is that the newly identified H5N1 most likely is not a virulence strain and the virulence should first be determined through scientific investigations. The ability of this virus crossing over to infect mammals should also be determined to estimate the true risk to human.

Based on our knowledge and experience studying virus evolution, most if not all viruses mutate from LPAI to HPAI. When the virus reaches HPAI, it is consider being the end of this virus evolution because either the infected host is dead and/or the virus could not find another host to infect! The fact that HK Government and it designated scientists still have not identified the natural reservoir where H5N1 is hiding, it is continued to find its way into our Hong Kong wild birds and now chickens.

The fact that not all strains of the avian influenza are found in chicken and that they cause either LP or HP symptoms in chickens suggested that chicken is the not the natural host unlike duck where in general no disease symptoms are observed for avian influenza. We need to determine the species barrier for AI between chicken and duck! Hence, this may explains why after 10 years, we are still only find small number of cases of human infected with this H5N1 avian influenza virus. Hence, the virulence of the newly isolates should be determined.

Finally, non-infected chickens pose to threat/danger to the general public and are SAFE to consumers to eat! Government should make their policy based on scientific facts and not to over blown the incidence and generate unnecessary and unfound public FEAR! The media staged culling generates unnecessary FEAR among general public and the result is that the general public will not buy any live chicken even if they are safe to consume!