OIE Regional Workshop on HPAI Control at Source in Southeast Asia
(Queenstown, New Zealand, 26 November 2007)

1. Executive Summary

The OIE Regional Workshop on Highly Pathogenic Avian Influenza (HPAI) Control at Source in Southeast Asia was held in Queenstown, New Zealand on 26 November 2007.

Approximately 90 people attended the Workshop.

There were four speakers who spoke at the opening session:

- Dr Teruhide Fujita, OIE Regional Representative for Asia and the Pacific, Tokyo;
- Dr Bernard Vallat, Director General of the World Organisation for Animal Health (OIE), Paris;
- Dr Toshiro Kawashima, Chief Veterinary Officer of Japan; the donor of the OIE/Japan Special Trust Fund Project to Control HPAI at Source in Southeast Asia; and
- Dr Barry O'Neil, Representative of New Zealand/Host Country.

There were three major issues for the Workshop:

- Current HPAI situations and control/prevention measures in Southeast Asia;
- HPAI control in Southeast Asia under the OIE/Japan Special Trust Fund Project; and
- Future activities to further strengthen HPAI control measures and preparedness.

Professor Hiroshi Kida, Hokkaido University and OIE HPAI Reference Laboratory, gave a presentation on the "Library of influenza A virus strains of all the known subtypes as the preparedness for HPAI and human pandemics".

Dr Shiro Yoshimura, HPAI Regional Coordinator/Senior Deputy Regional Representative of the OIE Regional Representation for Asia and the Pacific, reported on the "Progress of HPAI control at source in Southeast Asia under the OIE/Japan Special Trust Fund Project".

Dr Alejandro Thiermann, President of the OIE Terrestrial Animal Health Standards Commission, provided an update on the OIE HPAI Chapter.

Dr Joseph Domenech, Chief Veterinary Officer and Chief, Animal Heath Service of the Food and Agriculture Organization of the United Nations (FAO), Rome, reported on HPAI control at source in Asia from an FAO perspective.

Reports on current HPAI situation and control/prevention measures were received from Cambodia, Indonesia, Laos, Philippines, Malaysia, Myanmar, Thailand, Vietnam and P.R. China.

Dr Ronello Abila, OIE/AusAID Project Coordinator, gave a presentation on the programme to strengthen Veterinary Services (PSVS) in Southeast Asia to combat HPAI and other transboundary animal diseases (TADs).

What follows are the conclusions and recommendations from the Workshop.

2. Conclusions and recommendations

Considering that

1. The Workshop recognised the improvement of the situation of HPAI in the Region and also the importance in continuing efforts on the control and prevention of the disease at source. There is a need for a continued improvement of the epidemiological situation which has a negative impact on the livestock sector, as well as posing a risk to human and animal health. There is also the need for reinforcement of epidemiological data collection and analysis, considering that there is still an epidemiological understanding gap;

2. The Workshop also recognised and appreciated efforts made in HPAI control and prevention by countries, donors, international/regional organisations and other stakeholders;

3. The Workshop noticed the importance in improving the governance of Veterinary Services worldwide as the most effective way of preventing and controlling HPAI and any future emerging diseases, as well as having an effect on poverty alleviation;

4. The OIE Performance of Veterinary Services (OIE-PVS) tool can be utilised to determine compliance with international standards on animal health and zoonoses, including the quality of Veterinary Services; and

5. The evolution of the global situation of HPAI has shown the improvement of epidemiological understanding and the need for addressing the infection at source in animals in order to prevent human pandemic and consequences on the poultry sector and on small holder livelihood.

The Workshop recommends that

1. The investment and commitment of prevention and control of HPAI in poultry should be continued and further increased through mid- and long-term improvements in governance of Veterinary Services;

2. The epidemiological investigation should be continued with the particular focus on wild birds, as well as pigs. Socio-economic factors should be further investigated as a holistic approach to the multi-disciplinary dimensions of the disease;

3. The monitoring and characterisation of circulating virus strains should be intensified and considered as a key issue in the selection of effective vaccines in the control of poultry epizootics and the prevention of human infections and a potential pandemic;

4. International/regional linkages and collaboration should be further enhanced to tackle the disease, taking into account the transboundary nature of HPAI and recent spread throughout the world, in particular in Asia with some countries in an endemic situation;

5. International collaboration to support HPAI control and prevention should be continuously strengthened by donors and other stakeholders, and its efforts should be broadened to other countries at risk in Asia and the Pacific, while the Southeast Asian Region needs special attention, due to the current disease endemicity;

6. International organisations including OIE and FAO are encouraged to continue providing their support and assistance;

7. It is necessary to further strengthen activities of the disease control and eradication measures through capacity building and sustainable management of National Veterinary Services in order to support the prevention, management and control of major emerging animal diseases;

8. The application of zoning and compartmentalisation is encouraged in the prevention and control of HPAI, taking into account the application of all measures to address the epidemiological risks, as well as the importance of credible Veterinary Services with a strong private/public partnership. For this purpose, the OIE has recently selected two countries (Thailand and Brazil) to undertake pilot projects on practical implementation of compartmentalisation for HPAI. A cost-benefit analysis is encouraged prior to a full-scale implementation of compartmentalisation;

9. Early detection using on-farm passive surveillance remains a key element of avian influenza prevention and control. Emphasis should be placed on surveillance at all levels of the marketing and transportation chain;

10. Communication with all relevant stakeholders should be enhanced with a good balance of communication specialists and technical expertise. Therefore, communication as a discipline as well as communicators should be incorporated into the Veterinary Services.

11. Vaccination is one of the tools of control and prevention of HPAI, particularly in situations where the virus could not be eliminated through a strict stamping-out policy. When a vaccination policy is implemented, it must contain a well defined exit strategy, as well as utilisation of approved and efficacy tested vaccines. Acceleration of authorisation and registration should be considered in special occasions.

12. The capacity for collection and dissemination of animal disease information at a national level must be strengthened and made compatible with the OIE's World Animal Health Information System (WAHIS).

3. Opening Session

Dr Yumiko Sakurai, Regional Veterinary Officer of the OIE Regional Representation for Asia and the Pacific (OIE Asia-Pacific) moderated the Opening Session. She introduced that there would be four representatives to deliver opening remarks.

The first speaker was Dr Teruhide Fujita, OIE Regional Representative for Asia and the Pacific, Tokyo. Dr Sakurai explained his involvement in the OIE/Japan Special Trust Fund Project on HPAI Control.

Dr Fujita stated that, on behalf of OIE, this was an important occasion. He thanked the New Zealand Government for its generosity in hosting and preparing the Workshop. He expressed appreciation to Japan, the donor country, who has supported this Workshop in conjunction with the 25th Conference of the OIE Regional Commission for Asia, the Far East and Oceania 2007 which would start the next day.

"Highly Pathogenic Avian Influenza (HPAI) caused by subtype H5N1 poses a risk to humans and animals and this impacts on the agricultural sector. Coalitions are crucial in sharing information, collaboration and action for HPAI control and preparedness. This Workshop is a good opportunity and it is hoped that the Workshop will be vital for future HPAI control and prevention."

Dr Bernard Vallat, Director General of the World Organisation for Animal Health (OIE), Paris, expressed great pleasure in welcoming people to this special Workshop organised by the OIE Asia-Pacific. He thanked Dr Fujita for organising the Workshop and expressed gratitude to Japan for generous financial assistance. He also thanked the host country, New Zealand.

"This is an important Workshop for the Region since HPAI is an important disease which has spread to three continents. The virus remains fairly entrenched in countries where it has become endemic. A lot of assistance has been provided to each region and this has benefited Southeast Asian countries. Rapid response policies have been able to eradicate the disease. The OIE/FAO recommendations on the applications of vaccination have been largely followed in many countries which had been heavily affected. OIE maintains its position that vaccination should be carried out where stamping out is not feasible. OIE also stresses that these countries should develop a clear exit strategy when the time is ripe for an ultimate eradication.

"Sincere gratitude goes to Japan's funding assistance for countries to control disease at the source." He pointed out the provision of laboratory equipment does not fully comply with OIE policies, but that there is a need to strengthen Veterinary Services, with assistance of provision of laboratory equipment

"The OIE has successfully participated in international conferences with the same message - Veterinary Services needs to be strengthened and necessary resources provided. International community has responded very well and provided these resources. It has been applied in over 40 countries in the world including this Region." Dr Vallat was pleased to highlight that the new project financed by Australia was using the OIE Performance of Veterinary Services (PVS) tool.

He would like to reassure countries that OIE will do its best to assist them. He wished everyone a successful meeting.

Dr Toshiro Kawashima, Chief Veterinary Officer of Japan; the donor of the OIE/Japan Special Trust Fund Project to Control HPAI at Source in Southeast Asia was the third speaker. He expressed his great pleasure to be given the opportunity to speak on behalf of the Japanese Government at this Workshop. He expressed his sincere gratitude to the New Zealand Government, the OIE Regional Representation for Asia and Pacific and others for dedication and cooperation to prepare for this important Workshop.

"The number of human infections has gradually increased. The situation is serious in Southeast Asia where some 80% of the toll has been reported. Hence the Japanese Government pledged US$155 million agreed at the Beijing Meeting in 2006. Japan disbursed additional US$67 million in consideration of the need in Africa. While the disease has spread worldwide, it will be essential to concentrate on the "epicentre" and we should therefore continue to cooperate in the eradication of this disease and focus efforts within our region.

"There will be an international conference in New Delhi next week on HPAI and discussions about future activities. Although remarkable progress has been made, HPAI still causes economic damage and there is concern about hardships faced by countries infected with the disease. It is important for those countries to work together to strengthen and improve control/prevention measures of the disease. For that goal the Japanese Government is contributing not only financial but also human resources. In Japan there have been nationwide efforts to eradicate the disease. Attention is being drawn to stakeholders and farmers facing the high-risk season of HPAI. Japan is convinced that region-wide effort is indispensable to control the disease effectively. Japan is also convinced of the need to improve further the mechanism for disease control including the implementation of surveillance including wild birds.

"This is an extremely important meeting to share updated information, and control and prevention measures, and discuss future activities to strengthen control measures." He wished everyone fruitful discussions to eventually eradicate HPAI.

The fourth speaker was Dr Barry O'Neil, Representative of New Zealand, who welcomed everyone to the Workshop, especially those who had traveled from other countries. He thanked Dr Fujita and representatives from the Region, and Japan for its financial assistance which has made this Workshop possible.

"AI is a very important issue for countries in our region and Southeast Asia. The current H5N1 strain was first reported in Southeast Asia in 2003 and has subsequently spread to other countries. Unfortunately 14 countries in the Region have had outbreaks confirmed of HPAI. The number of human cases is far higher with 275 of the total known 335 human cases (82%) from countries in the Region. One hundred eighty-seven of the total 206 human deaths known in the world (91%) have occurred in countries in the Region. It has been timely for OIE to organise this Workshop and New Zealand is pleased to be the host so that we can be updated and collaborate and cooperate in order to make individual and joint efforts for HPAI control. The economic impacts have been high with an estimate of 1% of a country's GDP plus social impact. It has been estimated that HPAI could kill hundreds of thousands of people around the world and could cost US$2 trillion.

"Concerns of risk in the developed world have resulted in support from donor agencies. OIE has been stating controlling animal diseases at source is the only way to reduce the risk of spilling into other countries. The focus today is on this Region. We must ensure that work controlling this disease will help and greatly improve animal health practices, strengthen to apply international standards and working with colleagues and OIE, and investing in

capability of veterinary services in developing countries will be at less risk. Such investment will improve animal health situations and make a difference to the poverty and economic status of recipient countries.

"An opportunity has been created. We must work together to maximise benefits this opportunity has given us. We can make a real difference to not only our individual animal health situations, but also that of the entire world."

Dr Fujita outlined the three major issues for the Workshop: current HPAI situations and control/prevention measures in Southeast Asia, HPAI control in Southeast Asia under the OIE/Japan Special Trust Fund Project and future activities to further strengthen HPAI control measures and preparedness.

He expressed appreciation for Japan's cooperation which made it possible to hold this Workshop.

4. Library of influenza A virus strains of all the known subtypes as preparedness for HPAI and human pandemics

Professor Hiroshi Kida, Hokkaido University and OIE Reference Laboratory for HPAI, gave a presentation, points of discussion of which are summarised:

a Ecology and evolution of influenza viruses.
b Do the H5N1 HPAI virus strains perpetuate in the lakes where migratory birds nest?
c Is H5N1 HPAI virus alone as a pandemic strain candidate?
d How should we control bird flu and human pandemics?
e Preparedness for pandemic flu should be based on the measures how to control the seasonal flu.

The influenza virion division and the replication of the influenza virus were explained. These play important roles.

Main points were:

Pandemic influenza in humans - major outbreaks in the world were outlined.
Host animals and HA and NA subtypes of influenza A virus, intestinal replication of the Influenza virus in duck and H3 HAs were explained.
Duck influenza - each of the known subtypes of influenza A virus has been isolated from ducks. In ducks, viruses replicate in the colon.

Why are influenza virus genomes highly conserved in ducks?
Viruses replicating in the intestine are not under the serum antibody selection pressure. 40-50% of the population of migratory ducks is juvenile birds.

Amino acid sequences at the receptor-binding site of the HA of swine viruses compared to those of human and avian strains - table.

HAs of H3N2 viruses isolated from pigs in southern China.

Influenza viruses isolated from domestic ducks in southern China.

Route of transmission of genes of pandemic strains explained.

Susceptibility of pigs to H1 to H13 influenza viruses.

Gene derivation of virus clones recovered from a pig infected concurrently with an avian virus unable to replicate in pig with a swine virus.

The role of pigs in the emergence of pandemic strains.
Pigs are susceptible to avian influenza viruses to each of the HA subtypes.
Isolation of influenza viruses from water samples of lakes in Alaska in 1992-1994.

Acquisition of pathogenicity of avian influenza virus in chicken.

Tissue tropism of apathogenic, low pathogenic, and highly pathogenic avian influenza viruses in chicken.

Amino acid sequences at the cleavage site of influenza A virus HAs.

Return of the HPAI virus from domestic poultry to migrating water birds.

Nucleotide sequence identity between HA genes of H5 influenza viruses isolated from birds and humans in different areas in the world.

Surveillance of avian influenza in the natural hosts 1999-2006.

Concentrating epidemiology study of fecal matter from ducks from Siberia. No HPAI has been obtained.

HPAI virus and human pandemic virus strains explained.

Are we prepared for pandemic flu?
H1 to H16 and N1 to N9 subtypes of influenza A viruses perpetuate in the lakes where ducks nest in nature.
Viruses maintained by natural reservoir are antigenically and genetically stasis.
1957 H2N2 and 1968 H3N2 viruses are reassortments between AIV and the preceding human strains.
Pigs are susceptible to both avian and mammalian viruses and generate reassortments.
Avian viruses of any subtype can contribute genes for reassortment. None of the 16 HA and 9 NA subtypes can be ruled out as potential candidates for future pandemics.
Global surveillance of swine flu as well as avian flu is important.
Preparedness for pandemic flu should be based on the measures for the control of seasonal flu.

Library of vaccine strain candidates explained.

AI viruses of 136 combinations of HA and NA subtypes have been stocked as vaccine strain candidates.

5. Progress of HPAI control at source in Southeast Asia under the OIE/Japan Special Trust Fund Project

Dr Shiro Yoshimura, OIE Regional HPAI Coordinator, gave a presentation on the above topic. He thanked the representatives of the Project participating countries for their co-operation when he was in Bangkok. He was also happy to see many friends.

Main points were:

Outbreaks of HPAI in Southeast Asia - disease incidence getting lower partly with gaps between the number of outbreaks in poultry and in humans.

Clinical signs for detection explained.

Dr Yoshimura congratulated Thailand on their successful prevention and control measures. Samples were tested in the last three-four years. The Thai experience from targeted surveillance on more than 600,000 of samples concludes that most of outbreak reports were the results of passive clinical surveillance. Active surveillance was able to detect some outbreaks; however the efficacy (resource-benefit) was questionable.

Outbreaks of HPAI in Japan 2007 explained.

HPAI among poultry and human.
It seems that HPAI virus circulates throughout the year even without the appearance of disease.

Administrative structure and the importance of stable driving animal health vehicle explained.

The HPAI control programme in Southeast Asia including the collaboration mechanism and Component 1: HPAI strategy formulation and improvement was outlined. Dr Yoshimura thanked people for their documentation which was collected and the national strategies were reviewed. A further review has been undertaken and what is to be done now is to consult with participating countries. Countries will be visited for discussion and recommendations given.

Component 2 - Establishment of Regional HPAI Information Network - Regional workshops on HPAI Information systems.
Regional training on epidemiological information of HPAI in collection and analysis.
National workshops on epidemiological information collection and analysis.
Development of computer programme for HPAI Regional Information System (in progress).
Provision of personal computers to participating countries for information network (completed).

Component 3 - Procurement/provision of modern laboratory equipment and materials of HPAI diagnostic capacity building.
Procurement includes: selection of national laboratories to be strengthened under the Project (done), identification of the equipment and materials (done), verification/finalisation of the equipment list (done), formal agreements between OIE and authorities of the participating countries (done) and the contract for procurement and renovation with the agent (done).

Training has included a regional workshop for sequencing and national workshops on laboratory diagnosis.

Southeast Asia location of laboratories and major equipment for laboratories were highlighted.

Component 4 - Training of field veterinarians and para-professionals.
Preparation of national training (started consultation with relevant organisations for implementation in August 2006).
Implementation of training:

Regional workshop in Bangkok in July 2007.
National training workshops in collaboration with FAO in Myanmar, Cambodia, Laos, Vietnam, Indonesia (done: September-October 2007)

Dr Yoshimura thanked participating countries for their active participation.

The future actions of the Japan Special Trust Fund Project for next four months were outlined. He requested further cooperation to complete the programme in a successful manner.

Component 1:
Regional: Review of final recommendations for the Regional Strategies.
National: Consultation with the participating countries for reviewing and recommendations.

Component 2:
Regional: Development of computer programme for HPAI regional info system.
National: Done.

Component 3:
Regional: Done.
National: Procurement of equipment and materials and training at national laboratories.

Component 4:
Regional: Done.
National: Done.

6. Updated OIE HPAI Chapter

Dr Alejandro Thiermann, President of the OIE Terrestrial Animal Health Standards Commission, gave a presentation on "Update and application of the Code Chapter on AI"

Dr Thiermann expressed thanks for being invited to the Workshop. He recognised the work of Dr Mike Dermott.

Main points:

An attempt to improve definitions. It is important to make a distinction between LPAI and HPAI and what defines poultry.

For the purposes of international trade, a country should interpret an occurrence of infection with HPNAI virus in birds other than poultry according to the Terrestrial Code and should not impose immediate trade bans. Dr Thiermann added that we could end up with inaccurate reporting if this was not followed, in particular its origin and its strain.

Role of wildlife:
Migratory waterfowl does play a role in transmission, which requires further research.
OIE requires notification of HPAI detection in wildlife, however, without trade impact.
Once H5N1 is introduced into a country or zone, actions must focus on poultry and not wildlife.

Recommendations on trade:
The Code outlines measures for trade in live poultry, fresh meat and meat products.
Live poultry from NAI free country, zones or compartments.
Fresh meat from HPNAI free country, zones or compartments.
Meat products from country, zones of compartments regardless of NAI status.

To be free of AI they have to have surveillance that there is no LPAI and HPAI in their poultry and this is not accurate in those countries, without the surveillance, declaring that they are free of HPAI.

Zoning and Compartmentalisation:
Essential to give assurance that poultry is away from risk.

Application of Compartmentalisation:
Issues need be addressed at several levels:

- Infrastructure within which compartmentalisation for AI may be effectively implemented.
- Public/private sector relationship→partnerships.
- Establishment and operation of individual biosecurity plans for compartments.

We will work from the top down as, if the higher level issues have not been addressed effectively, compartmentalisation cannot be implemented.
Compartmentalisation should be kept in mind when the disease expands into other areas.

Pre-established firewalls are needed as they could severely minimise the impact. All this must be considered ahead of time.

Advantages of Compartmentalisation:
There is trade, even when the country or region is not free from avian influenza.
Guarantees the safety of the compartment, even when the threats come from migratory wildlife.
The resources to conduct the operation can come from various sources, even the beneficiaries.
The beneficiaries are responsible for ensuring the biosecurity with the auditing by government.

What is needed for compartmentalisation to work?
Credible Veterinary Service, with a strong private/public partnership.
Compartmentalisation biosecurity plan has to be clear, addressing epidemiological aspects.
Should have a good communication strategy to explain and market overall plan.
Should be discussed and agreed by importing partners during “peacetime”.

In summary, it is the responsibility of OIE to provide scientific advice on how to conduct safe trade. We must work with stakeholders and protect public and animal health. Our obligation is not to spread paranoia but we can do this through information of trade of products.

The Workshop was then opened up for a questions and answers session.

A representative of Singapore thanked all the speakers. He asked if the computerised information system is going to be totally a new system as there are already two systems in existence.

Dr Fujita explained that there is a system on animal disease information and that member countries can directly communicate to OIE via the World Animal Health Information System (WAHIS). The new software of the Regional Core, which will be connected with the WAHIS, is a more detailed system for the Region when developed. This will give ideas of regional core development.

Dr Karim Ben Jebara, Head of Animal Health Information Department, commented that WAHIS is a worldwide system to provide information to OIE using the worldwide network so people can send directly emergency reports, six-month reports and annual reports. "We have a system analysis for all information which gives a summary of information to everybody. It is a worldwide database. The information is progressing. In summary, it would be advantageous to have only one system for worldwide problems. The regional organisation has specific information which can be managed by our own system of regional organisation. The difficulty is having two systems with specific information."

Dr Chua Sin Bin, Chief Veterinary Officer of Singapore, explained that "there was a need to integrate our system and this has been done. We can use our country's individual systems. We want to give more detailed information to OIE on outbreak by outbreak. Information has been stored in a database, which is used for decision making. If there is only one system there will not be any discrepancies of information. Some information has not yet been used and not yet transferred to the WAHIS system. We confirm that the data is in good shape. The idea is not to replace WAHIS system. Part of the data in the system will be transferred to the regional website. We need to have one database and one source of validation and quality of information."

Dr Somsak Pipoppinyo, Assistant Director of ASEAN Secretariat, added that "A few countries have agreed in principle to get information from WAHIS. Most have agreed to get the information from one source. For emergency diseases there can be an e-mail emergency warning system. They are currently working with 10 countries on signing an agreement. Responses are still being awaited from all countries."

Dr Joseph Domenech, FAO, stated that the cost of compartmentalisation is an issue in developing countries and that cost and benefits have to be shown to the private sector.

In relation to information systems, he requested not to forget about the field. "A lot has been invested in 15 years. Systems are evolving constantly because of computer capacity. There is a question of maintenance. As soon as you define the system it is already out of date. Any information put in the system to be used must be in such a way to work with WAHIS system."

Dr Vallat commented that funding has been received to work on a pilot with Thailand and Brazil to develop compartmentalisation and that they are working with private and public sectors.

7. HPAI control at source in Asia

Dr Joseph Domenech, Chief Veterinary Officer and Chief, Animal Heath Service of the Food and Agriculture Organization of the United Nations (FAO), gave a presentation on "HPAI - situation and dynamics, control at source".

The main points were:

HPAI Temporal Spread (last six months):
There have been a number of countries infected.
Data and transparency is now a lot better; declaration is more.

HPAI Outbreaks in Asia, Europe and Africa:
Difficult to prove that outbreaks are decreasing.

Number of confirmed human H5N1 cases by month of onset as of 15 October 2007 - WHO data explained.

Successes:
Improvement of global situation:
- alertness and preparedness;
- early detection and reporting;
- early response;

Eradication from many recently infected countries.

Negative aspects:
H5N1 HPAI viruses remain entrenched in three main countries: Indonesia, Egypt, Nigeria.
These foci of infection are a threat to other countries and a potential human influenza pandemic risk.

Control measures require good surveillance, early detection, early warning and reporting, early response, strong veterinary services, enforceable laws and regulations, public-private partnerships and participatory approaches at the village level (where appropriate)

Needs more long-term investment.
Lots have been achieved and still more can be achieved.

Epidemiological risk factors include knowledge of factors leading to infection, and the persistence of infection is improving. Epidemiological studies in some countries are hampered by lack of quality data.

Growth of the global poultry sector.

Sub-clinical infection in ducks.

Trade in poultry and other birds - globalisation.

Cultural practices.

Wild birds.

Genetic variations:
Genetic variations have occurred but until recently were of limited veterinary significance as these did not impact on control.
Despite genetic changes, still no evidence of enhanced capacity to infect humans.

Predictions are difficult but now we better understand many risk factors for infection.
Trade in domestic poultry and other birds.
Movement of wild Anatidae.
Infection in neighbouring country.

These were discussed and published at a Technical Meeting on future programmes on HPAI Control, Rome June 2007. This will be the basis of document for discussions in New Delhi.

Holistic Approaches to Diseases:
There is a need to have a global approach, farming systems and biodiversity, animal populations and movements, land use, socio economic context, institutional context and policies, climate and natural and man made disasters.

Socio-economical issues include cost and benefit analysis of vaccination campaigns and compensation: mechanisms, cost.

Tools: Rumour tracking.

Risk factors exploration.

8. Reports on current HPAI situation and control/prevention measures in Southeast Asian countries

Dr Yoshimura moderated the session.

a. Cambodia

Dr Kao Phal, OIE Delegate/Director General, Department of Animal Health and Production, presented the following report:

Avian Influenza Situation in Cambodia.
Poultry Production Systems.
Semi-commercial system and Traditional/backyard system.

Poultry Production System:
Family Production System 80-90%.
Poultry (local breed).
Family consumption.
Average of 12-13 head.

Challenges include most Cambodian farmers raise poultry traditionally (free-range system) and bio-security is low or non-existent.

National Strategy on HPAI control in Cambodia:
1 Veterinary Service Strengthening;
2 HPAI Surveillance investigation and response in Phase 3;
3 Biosecurity in poultry production and trade;

4 Public awareness and education;
5 Pandemic planning.

HPAI Situation:
Cambodia met the first experience in HPAI outbreaks in January 2004.
The first human case of H5N1 in January 2005.

The Veterinary Structure including Department of Animal Health and Production (DAHP) provides technical support to their 24 provincial and municipal lines Provincial Animal Health and Production Office (PAHPO). Below this level, district offices are staffed with one-two several veterinary officers who report to the provincial office.

Prevent and Control Spread of HPAI.
Legislation and veterinary measures.

Legislation Measures include Government and Ministry of Agriculture, Forestry and Fisheries.

Veterinary Measures:
Task Force 1: Investigation and Diagnosis;
Task Force 2: Communication;
Task Force 3: Control Measures.

Reporting System.

Establishment of an HPAI hotline.

Control and Prevention HPAI includes surveillance, early response and public awareness.

Diagnostic Capacities in NaVRI include serological tests and virus isolation.

Training is undertaken with district and local veterinarian, village animal health workers and training courses with provincial and district veterinary staff in 24 provinces on outbreak response in July 2007.

The National communication strategy and Action Plan on AHI's objectives include those for pre-pandemic and for pandemic.

National Coordinating Committee on Information, Education and Communication (IEC) for AHI.

Key Messages:
Control the disease at source in animals through reporting unusual sickness and death and separating your poultry.

Key for implementation include priority behaviours/actions and core messages.

Public Awareness Campaigns include mass media, community theatre (350 shows in 13 provinces at the remote areas), public meetings, forums, marches and other events; training for village animal health workers and village chiefs (FAO and MAFF have trained 4,725 Village Animal Health Workers in 19 provinces); workshops with school teachers; religious leaders in 13 provinces; training for journalists (five training courses) and hotlines.

TV and Radio programme.

Community AI forums.

MAFF/FAO and VAHWs marched in 9 provinces which resulted in questions and answers sessions amongst public and farmers.

Water Festival Campaign.

Four hundred and six (406) billboards in 24 provinces and 90 Tuk Tuk.

IEC Materials - Leaflets on bio-security and prevention measures.

Teaching guides.

Booklets and magazines:
"Wash your hands" and "quarantine new chickens for 14 days" and "report sick or dead poultry."

Posters on AI in 2007.

b. Indonesia

Dr Tjeppy D. Soedjana, OIE Delegate/Director General, Directorate General of Livestock Services, expressed his pleasure in having the opportunity to attend this Workshop.

The latest situation in poultry is that 31 provinces are infected. During the last six months no cases were reported in provinces. Human cases reported in 11 provinces. One hundred thirteen (113) confirmed cases - 91 fatal. Control measures in place are early detection reporting and response; vaccination implemented at own cost; vaccination started in 2006 and continued in 2007. There are a number of problems with the vaccination programme - objective is to screen, isolate and intensify and recommend vaccination strategy. The plan of action is to focus on high-risk areas, enhance coordination with donor country and other agencies.

Dr Elly Sawitri Siregar, Coordinator, Campaign Management of Avian Influenza, presented the following:

Poultry numbers.

Poultry industry.

Total poultry density.

HPAI Situation:
First identified in late 2003. 31/33 provinces have confirmed cases. Incidence varies across the country. Both commercial and village poultry.

Districts with confirmed infection.

AI incidence.

2006 - National Strategic Plan has nine elements.

Strategy remains valid and there is good progress in management, surveillance and laboratories but little evidence of HPAI incidence being reduced which has resulted in ongoing human exposure and cases.

Workplan:

1 Improve the management:
Autonomy era, Ministry of Agriculture in collaboration with Ministry of Internal Affairs.
Improved coordination with MOH and Komnas.
Knowledge and capacity has improved.
Knowledge - information, education and communications.

2 Reduce risk:
Many high risk practices along the production and market chain.
These must be identified and risk eliminated and reduced.
Endemic disease - looking for opportunities to reduce disease incidence/viral load e.g. vaccination, improved farm biosecurity, managing duck flocks.
Vaccination strategy - mass vaccination in mid 2004, continued 2005 and early 2006; vaccination in sections 1, 2 and 3 at their own cost with coverage estimated to be 90% in commercial layer and 100% in breeding flocks.

AI vaccines:
Vaccination problems includes complex programme management in the autonomy era; limited resources against scale of task; low vaccination coverage; a range of species infected; poor biosecurity and vaccine efficacy issues.

Available isolates - region - Need more samples from West Java.

The OFFLU Project - concerns over vaccine efficacy, will include antigenic mapping; increased collection of representative isolates; challenge tests, transmission studies, vaccination strategy; identify efficacious current vaccines; identify new seed strains if required and ongoing monitoring.

3 Improve detection and response:
Passive surveillance - awareness and reporting (IEC programme, engagement with commercial industry, remove the threat of likelihoods); Participatory Disease Surveillance; Commercial industry, Diagnosis (field, laboratory), virus collection and vaccine monitoring.

International Support includes FAO; field activities; commercial industry; socio-economics; laboratories; legislation; quarantine; and research/development.

Dr Yoshimura, moderator, pointing out Indonesian constraints including the country size, huge human and poultry populations and a comparatively smaller number of officials, mentioned that more focus would be made at the field level.

c. Laos

Dr Bounkhouang Khambounheuang, OIE Delegate/Director General, Department of Livestock and Fisheries, gave the following presentation.

The main points were:

General geographic information of Laos.

Role of poultry production.

Three types of poultry production (back yard, domestic and commercial raised).

Backyard and semi-commercial poultry production - low bio-security.
Commercial - medium level of bio-security.

Main constraints for the poultry production:
Poor management for backyard poultry and free roaming ducks.
Disease outbreak.
Situation of HPAI and the control measures:
Three outbreaks of HPAI occurred in Laos - last outbreak in February 2007; 2 human fatal cases.

Location of the outbreak in 2007.

Clinical symptoms of affected poultry were observed during HPAI outbreak in Laos.

Control measures:
Restriction of the movement of poultry and poultry products.
Set up the temporary check points in 5 Km radius from the outbreak points surrounding.
Employ the multidisciplinary team at the temporary check points to empower the control of movement of poultry and poultry products. (Set up spraying points)
Raising public awareness and public education includes proper hand washing.

Development of the National Strategic Plan for the AI Control and Pandemic Preparedness:
Strategy 1: Development of a disease free avian management system. Covers 10 areas.
Strategy 2: Disease surveillance and response.

Future Plan includes continuing surveillance both active and passive; upgrading the capacity and capability for the AI diagnostic laboratory; continuing education and public awareness; and strengthening veterinary personnel in the country.

Acknowledgements included the FAO, World Bank, OIE Tokyo, DAH of Vietnam and DLD of Thailand, NGO and other international organisations; St Jude Children's Research Hospital, Memphis, Tennessee, USA.

d. Philippines

Dr Victor Atienza, Assistant Director, Bureau of Animal Industry, gave the following presentation.

The main points were:

The Philippines remains AI free.

Avian Population of the Philippines:
Chicken 90%, duck 6.8%, other poultry 1.5, other 0.7.
More backyard farm type than commercial.
A disease outbreak at a commercial farm, would do the stamping out. Problem at the moment is in the backyard with little knowledge on biosecurity.

Threat Assessment:
Specific measures to respond to the threats - strict monitoring of wildlife trade, surveillance of poultry populations, screening of passengers from AI infected countries in airports.

Stage 1: Keeping the Philippines Bird Flu-Free;
Stage 2: Controlling and Eradicating Bird Flu in Domestic Fowl;
Stage 3: Bird to Human Transmission;
Stage 4: Human to Human Transmission.

Prevention programmes based on Stage 1 of Avian Influenza Protection Programme (AIPP):
Ban on importation from AI-affected countries.
Minimum biosecurity measures.
Surveillance and prevention programmes in airports and seaports.
Surveillance of poultry in critical areas in the Philippines.
Preparedness from the national to local level.
Establishment of compartmentalised poultry zones.
Upgrading of laboratory facilities.
Enforcement of the Wildlife Act.
Preventative measures in humans.

Ban on importation from AI affected countries:
Initiated by Bureau of Animal Industry, AO issued by the Secretary of Agriculture.

Minimum biosecurity measures include no domestic ducks and free-range poultry in migratory bird areas, especially wetlands; proper disposal of mortalities and proper rest period and disinfection between flocks.

Surveillance and Prevention Programmes in Ports and Seaports include standardised footbath installations and replenishments of disinfectants, inspection of luggage/cargo from AI-infected countries and confiscation and destruction of unlicensed cargo.

Surveillance Poultry:
Collected a total of 8,680 serum and 1,736 cloacal swabs from native/game fowls, chickens, ducks - all negative results of AI.

Preparedness from national to local level:
AI Preparedness Workshops down to the municipal level in different regions.
Upgrading of PAHC and four Regional Laboratories.
Strengthen national and regional laboratory network.
Purchased equipment for AI diagnosis.
Provided trainings on AI laboratory diagnosis, molecular diagnosis and good laboratory practice.

Establishment of Poultry Zones includes establishing boundaries to prevent entry and limit or stop spread of AI and facilitate surveillance, detection and control.

Enforcement of Wildlife Act:
Led by PAWB-DENR in coordination with LGUs and local PNP.
No permits for poultry wildlife or exotic poultry species from AI-affected countries.
No collection of migratory birds, regardless of purpose or collection technique.

Preventative Measures in Humans:
Influenza vaccination for all poultry workers and handlers mainly on commercial farms and AI. Taskforce Member Personnel.

Foreign Assisted Projects from Japan, New Zealand, US Agency for International Development and UNICEF.

Specific Activities:
Information, education and communication.
IEC materials developed for specific target audiences (training modules per stakeholder, instructional video on PPE donning and doffing, posters).
Conduct of Knowledge, Attitude and Practices survey (basis for tri-media campaign); seminars, workshops on HPAI; community based information campaign).

Research includes assessment of risk for human and animals along market chain (live bird market study).

Census/database:
Conducted the census of all poultry population, farms and meat establishments.
Animal Health Information System.

GIS/GPS Capability - faster identification of affected areas.

The Work Ahead:
Zoning/compartmentalization.
Completion of the four components of preparedness.
Mobile laboratory for rapid diagnosis.
Establishment of more AI laboratories in Luzon, Visayas and Mindanao to complement activities of the national laboratory.
Widening of coverage of areas for disease surveillance.
Review of AIPP for further improvement of disease control and eradication protocols.
Community based early warning system to be piloted.

Dr Yoshimura, congratulating the freedom, told the Philippines' presenter to learn how and why other participating countries succeeded and failed in their prevention/control measures.

e. Malaysia

Dr Mohamad Azmie Bin Zakaria, Director, Biosecurity and SPS Division, Department of Veterinary Services, gave the following presentation.

The main points were:

Declaration of freedom - Malaysia was declared free from HPAI on 10 September 2007.

Isolated HPAI Outbreak - 5 June 2007 involving 67 village chickens at Paya Jaras Hilir, Selangor and by 10 June all 4,266 birds in 1 km radius were stamped out with RM39,935 compensation.

HPAI Surveillance January-August 2007 Cloacal Swab.

HPAI Outbreak in Peninsular Malaysia 2004-2007.

No new HPAI cases reported.

Implemented a stamping out policy - 83,049 birds culled and compensated 2004-2007.

How to Maintain Freedom:
Continuous threats of HPAI.
Smuggling of chickens and products.
Movement of migrant workers with their pet birds.

Policy Review includes a revisit of our policy and plan.

Industry Restructuring:
89% of cases were detected in village chickens.
We are considering to restructure village chicken production from free ranging system to more organised farming practices.

Compartmentalisation involves improved biosecurity and establishment of compartment around poultry farms.

Traceability - legislation, registration, coding, RFID and ICT infrastructure.

Working on Crisis Process Continual Improvement.

HPAI Preparedness Plan:
Prevention (avoid crisis from recurring); preparedness (prepare plan, training, simulate, increase public awareness); control and response (control and response according to situation) and recovery (post-crisis activity for full recovery).

Components of preparedness include human resources; financial; logistic, material and equipment; infrastructure, laboratories, operation centres, mechanism and system.

Organisation Structure, Line of Authority in HPAI Emergency Response.

Outbreak Reporting System.

HPAI Operations - Cooperation between various agencies.
Need to devolve in the shortest possible time.

Strengthening animal health management includes reorganisation of DVS, training of staff and continuous HPAI surveillance throughout the country.

HPAI surveillance.

Training of staff.

Paya Jaras outbreak - disease was contained within four days after detection.

Speed and Effectiveness - increase speed and effectiveness after each wave from detection to declaration of freedom: 2004 - 276 days; 2006 - 124 days; 2007 - 95 days.

Challenges include repeated outbreaks and continuous freedom will become fatigued, complacent and institutionalised.

Institutionalised: sustain interest.
Upgrading VRI into Regional Reference Laboratory.
Development of Centre Disease Control.
Continued attention of OIE, FAO, ASEAN will sustain the national interest.

Conclusion:
While Malaysia is free from HPAI, all resources will continue to be mobilised to maintain the country in the state of preparedness.

Dr Yoshimura, pointing out the background of the successful control, spoke on the necessity to collaborate and cooperate among ministries involved, especially with police for the sake of quarantine and movement control at outbreaks.

f. Myanmar

Dr Aung Gyi, Director, Livestock Breeding and Veterinary Department, gave the following presentation.

The main points were:

Demographics and livestock population - poultry population 93.7 million.

Summary of First (March/April 2006) and Second Waves (February/March 2007) of HPAI Outbreaks in Myanmar.

Map of the HPAI Outbreaks in Myanmar.

Bago is a high risk township.

Outbreak Containment Measures include culling the poultry species within 0.5 km of radius, cleaning and disinfecting the infected premises and restriction of movement/live bird market ban within township.

Insights on the Current Situation:
Early detection, early reporting and early response.
Improved awareness of the farmer resulting in early reporting.
Improved capacities in responding to outbreaks - laboratory diagnosis, response to the outbreak.
Need to strengthen the capacity of animal heath authority in three areas:
- epidemiology concepts to effectively;
- laboratory diagnosis;
- risk communication.

Map of places in surveillance and investigation from 1 January 2004 to 31 December 2005.

Disease Surveillance - post outbreak active surveillance.

After outbreak - disease surveillance in affected area (21 days after last case of outbreak) and in non affected area.

HPAI Surveillance during December 2005-February 2007 and July 2006 to January 2007.

Surveillance after Yangon Outbreak.

Laboratory Capacity for Diagnosis of HPAI included.
Rapid test kits for type A influenza.
Rapid test kit for subtype H5.

Location of diagnostic laboratoriess, quarantine stations and check points.

Gaps and Challenge in AI Surveillance:
Need to organise a set up of surveillance network.
Only a small number of staff in Yangon and Mandalay laboratories work for sampling.
Surveillance in outbreak areas and in whole Myanmar is being planned.
Sero-positive farms were found in the last surveillance, but still need to consider for control measures.

Enhancement of HPAI Surveillance:
To enhance early detection and early reporting of disease in domestic and wild birds.
Set up formal surveillance system.
Maintenance of surveillance activities.
Improve communication from field to central.
Improve knowledge in epidemiology.

Humane culling with carbon dioxide.

On site developed IEC materials on AI.

Training - Posters - "Cook chicken meat well", "Hands should be cleaned thoroughly with soap".

Dr Gyi expressed gratitude to all countries providing assistance for regional cooperation on control and prevention of HPAI in Myanmar.

Dr Yoshimura, pointing the shrinking average number of poultry at infected farms, said that it might be better to focus much on smaller holders.

g. Thailand

Dr Chaweewan Leowijuk, Deputy Director General, Department of Livestock Development, provided the following report. She thanked the organiser for the opportunity to report on the situation in Thailand.

The main issues were:

Current HPAI Situation in Poultry in Thailand:
Thailand has been free from HPAI case for 253 days (as at 23 November 2007).
Four cases reported in 2007.

First National Strategic Plan for AI Control and Influenza Pandemic Preparedness in Thailand (2005-2007). Divided into 2 parts.
National Strategic Plan for AI Control in Thailand and Thailand National Strategic Plan for Influenza Preparedness.

Plan has six strategies - improve animal husbandry to biosecurity system, outbreak response, research and development, strengthen capacity or institutional/personnel, participation of all stakeholders and integrated management system.

A key of success was the Integrated Management System: Structure of committee in different level (multisectoral public-private).

Activities in 2007:
Strategy 1 - Develop and improve farm management for a safe poultry production
Improving or adjusting poultry raising/production system
Highlighted compartmentalisation - 21 companies have applied and been approved to be our member with 78 compartments and 962 farms involved.
Surveillance - X-ray - (three campaigns in 2007 - negative results) and Fresh market survey.
Cleaning and disinfecting campaigns.
Poultry movement control.

Strategy 2 - Prevention and control of the outbreak:
Stamping Out - 110,022 poultry.

Strategy 3 - Promote Research and Development with knowledge management:
Research papers.

Strategy 4 - Capacity building for institutes and human resource development:
Surveillance and disease control area and diagnosis area.

Strategy 5 - Public understanding and collaboration among the public and stakeholders:
Production of media and PR through media.

Strategy 6 - System and mechanism for integral management:
Integrated HPAI task force in all levels.
International collaborations - global and regional level, bilateral and others.

Second National Strategic Plan for Prevention and Control of AI and Preparedness for Influenza Pandemic (2008-2010):
Year 2008-10
Four strategies:
1 Improving or Adjusting Poultry raising/production system;
2 Surveillance, Prevention and Control in human and poultry;
3 Pandemic Influenza Preparedness;
4 Cooperation among organisation, community, business sector and international.

Conclusion:
HPAI prevention and control measures in Thailand are constant for the years 2006-07 but with different focus. The number of HPAI cases has dramatically decreased since 2006-07 and stamping out has been a low activity.

Dr Leowijuk was thanked for great contribution and control and preparedness activities.

h. Vietnam

Dr Bui Quang Anh, OIE Delegate/Director General, Department of Animal Health, expressed thanks for being invited to this Workshop and gave the following presentation.

The main points were:

AI Situation:
Epidemic in poultry.
Since late 2006 until 2007 there have been two waves of HPAI in poultry in Vietnam - 6 December 2006 to 1 January 2007 and 1 May 2007 to current.

Control and Prevention Measures in Poultry Sector:
Direction and leadership.
Central and local government and other related sectors.
Management and technical aspects (clinical monitoring, early detection; destruction of poultry within infected flocks; regularly disinfection and one month nationwide sprays and cleanings; conducted nationwide vaccination and post-vaccination surveillance; active surveillance for virus detection to foresee the epidemic and eliminate the career flocks).
Other aspects to support included strengthening of veterinary diagnostic capacities, supplied modernised equipments for laboratories.

Lessons learnt covered the areas of:
Early detection and response.
Vaccination.
Information, education and communication.
Pandemic preparedness.
International support.

A questions and answers session then took place:

Dr Vallat summarised the presentations by stating that passive surveillance could be considered more important than active surveillance for early detection in several situations. He expressed doubt over some existing communication strategy messages, particularly in poor countries where there are poor people - poor people have backyards and this is important for their livelihood. "The message is often wrong about keeping poultry inside. Messages are not being developed in the context of the country (it is done by communications staff, not veterinarians). There is more risk in transmission or to cut livelihood of very poor people by asking them to keep poultry inside. A risk analysis is needed when this kind of message is used.

"It is important that there is insistence on more generic support to be made to veterinary services. It is much better now because of generic support from OIE. The situation is currently better but can be provisional. It is important to invest more in veterinary services and surveillance in peace time."

i. P.R. China

Dr Wang Zhiliang, Director, National Diagnostic Center for Exotic Animal Diseases, gave a presentation.

The main points were:

HPAI Situation in Mainland China:
In 2004 - 50 outbreaks in 16 provinces, 2005 - 31 outbreaks in 12 provinces, 2006 - 10 outbreaks in 7 provinces, 2007 - 3 outbreaks in 3 provinces.

Outbreaks are declining.

Strategies for HPAI Control:

1 Optimising emergency commanding system;
2 Formulating and improving laws and regulations;
3 Sticking to principle of putting prevention first and adopting comprehensive control measure. Compulsory vaccination applied all over the country;
4 Strengthening surveillance and reporting system and improving early warning capability. Animal disease surveillance network;
5 Keeping prevention and control in a scientific way through the sustaining research and development;
6 Disposing each outbreak completely;
7 Enhancing the coordination among departments and regions;
8 Implementing industry-supporting policy to restore poultry production;
9 Increasing public awareness.

Challenges in HPAI Control:

1 Active poultry trade increases the risk of HPAI.
2 Migratory birds also pose threats to poultly industry.
3 The large population of waterfowls may also increase the risk of HPAI outbreaks.
4 More than 60% of poultry are raised in free range farms and backyards.

Strategies in the Future:

1 Intensify vaccination campaign at least twice a year.
2 Improving the surveillance and early-warning capability.
National AI surveillance Plan (2005-2010) - 2004-06 more than 11 million sample tests for antibody or virus - 37 samples were found positive.
3. Improve the poultry farming practices.
4 Enhancing the establishment of disease free zones.
5 Enhancing the international exchange and cooperation in disease control.

Conclusions:

Stamping-out policy plus vaccination is our main strategy and experience for HPAI control but as a developing country we are still facing many challenges and difficulties. However, we are confident in the success of the fight against HPAI.

9. Programme to Strengthen Veterinary Services (PSVS) in South East Asia to Combat HPAI and other TADs

A presentation was given by Dr Ronello Abila, OIE/AusAID Project Coordinator.

The main points were:

OIE/FAO programme on Good Governance.

Goal - Strengthen Veterinary Services (VS) consistent with OIE policies and objectives, thereby improving their capacity to control and prevent transboundary, emerging and re-emerging animal diseases.
Purpose - To develop an integrated approach to equip VS with tools to improve their ability to comply with OIE standards and other animal health policy objectives.
Components - Governance, legislation and policy development.
Animal health communication, co-ordination and networking.

Technical capacity building.
Strengthen HPAI Laboratory Network in support to OFFLU.

Project Scope:
1 Competency training and PVS accreditation;
2 National seminars on OIE Standards on Veterinary Services;
3 Evaluation of VS using the PVS tool;
4 Interventions on strategic components of VS;
5 Strengthening of AI Laboratories in Southeast Asia in support to OFFLU.

Expert from AAHL-Geelong shall be identified to coordinate this activity.
AAHL will manage the development of training programme and training materials for laboratories in the region to improve Quality Assurance (QA) system.
Collaborate with ASEAN, FAO and donors to strengthen laboratory network.

Gap analyses:
A rapid start on mutually supportive gap analysis to develop an understanding within the network of our strengths and challenges. Perhaps start with representatives of national reference laboratories coming to AAHL to do a gap analysis. Combined with a workshop on QA, Accreditation, Laboratory Technologies and Biosafety.
Laboratories must ensure that staff are safe from infection with zoonotic diseases, and that laboratories are not a source of infection for animal diseases under study.

Standard Test Methods:
The OIE Manual of Diagnostic Tests and Vaccines for Terrestrial Animals (The Manual) is the international benchmark.
AAHL has provided regional training programmes with detailed test methods for AI real time PCR, C-ELISA serology for antibodies to AI viruses and HI serology for antibodies to H5.

Quality Assurance and Accreditation:
Internal quality control (IQC) records and analysis for each test method.
Proficiency testing for real time PCR and serological tests.
AAHL is supporting the network with advice on quality assurance and the provision of proficiency testing.

Provision of standards and reagents:
The availability of standard reference materials is essential to allow laboratories to achieve equivalent test results (reproducibility).
The availability of high quality reagents is essential to allow laboratories to achieve accurate and consistent results.
AAHL is producing and supplying standard reference materials to a number of projects in a number of countries.

Training:
Training may be needed in support of: biosafety and biocontainment, laboratory test technologies and quality system management.
Training may be conducted: at a training venue or by on-site support visits.

Dr Ali Qurban, Director General, National Veterinary Laboratories, Pakistan, noted that vaccination proved to be a good tool. "One suggestion for the forum would be a need to look at vaccination quality control of vaccines being used in those countries. There are large

quantities of vaccines being produced with poor quality control. OIE should support this with better expertise and capacity. This needs to be discussed further."

Dr Thiermann stated that a lot of information has been produced without technical input and expertise. He recommended that communication be integrated into the activities of veterinary services.

Dr Domenech commented that things are improving and that in Asia things are moving fast. He congratulated the speakers on the quality of their presentations. In regards to communication, he has spent a lot of time in some countries and agreed that it is difficult to convey messages that are unfeasible. "We need to find the right balance of norms and standards. Communications people have the skills and networks but at the same time need technical people. This must be completely integrated. The right interaction is needed between the different organisations. It is a complex matter.

"In relation to the vaccines, it needs to be made possible licencing and the capacity to do the vaccine. It is a long process to authorise use of new vaccine. This needs to be accelerated in an emergency."

Dr Gardner Murray, President of the OIE Regional Commission for Asia, the Far East and Oceania, stated that there have been significant improvements in Asia. "People are thinking strategically and in order for progress to continue I would like to reemphasise the importance of veterinary services and capacity building. A recommendation is required that emphasise the importance of veterinary services in ensuring sustainability in good animal disease prevention. We need a sound recommendation on vaccines that would talk about the need for selection of proper vaccine strains, the essentiality of top class quality assurance and efforts being made to speed up the introduction of effective vaccines to meet problem situations."

Dr Thomas Sit, Assistant Director (Inspection and Quarantine) from Hong Kong SAR, China commented on surveillance and control at market levels. "We need hot markets to use surveillance and control. There seems to be a lack of monitoring of vaccines. Consignments of birds in Hong Kong are monitored before they are sold to the market. Backyard poultry is also important to control. It is not preaxial to vaccinate every single household. Poultry is now registered and this is working. Animal welfare standard for poultry is also important. Standard now being used is working hygiene condition in retail market."

Dr Kao Phal, Cambodia, pointed out that vaccination is a good way to prevent disease. He would like to discuss further the movement of chickens to market.

Indonesia stated that speeding up vaccines was an issue. He supported the speeding up of the procedure so that it provides protection.

Dr O'Neil, New Zealand, pointed out that "while not discussed today, it is important when dealing with communication issues not to overplay risks to the extent where there is a consumer backlash. Clear scientific advice needs to be given on practices."

10. Discussion on future activities to further strengthen HPAI control measures and preparedness

Dr Fujita presented the draft conclusions and recommendations for feedback for which it was agreed that an Executive Group work on the above recommendations and present these at the 25th Conference of the OIE Regional Commission for Asia, the Far East and Oceania.

During the Conference, Dr Fujita mentioned that the Draft Conclusions and Recommendations from the Workshop on HPAI Control at Source were incorporated in the CD-ROM (refer to the Recommendations after the Executive Summary). He requested the participants to comment, if any, by 14 December 2007 for finalisation of the Draft.