



## **FAO/OIE Emergency Regional Meeting on Avian Influenza Control in Animals in Asia**

**26-28 February 2004  
Bangkok  
Thailand**

In collaboration with:

World Health Organization,  
Government of Thailand (Ministry of Agriculture and Cooperatives)  
and Japan Livestock Technology Association



**FAO/OIE Emergency Regional Meeting on Avian Influenza Control  
in Animals in Asia  
26-28 February 2004, Bangkok, Thailand**

**Organisers:** FAO, OIE, Government of Thailand (Ministry of Agriculture and Cooperatives) in collaboration with WHO

**Sponsors:** FAO, OIE, Government of Thailand (Ministry of Agriculture and Cooperatives), and JLTA (Japan Livestock Technology Association)

**Meeting place:** Sofitel Central Plaza Bangkok  
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The Avian Influenza epidemic is an unprecedented crisis which has so far affected ten countries in Asia almost at the same time, with six being particularly concerned due to the rapid spread of the highly pathogenic virus strain, H5N1. This disease represents a serious threat to human health and has a potential to spread to other countries in the region or even to other continents.

FAO and OIE therefore took the initiative to co-organise an Emergency Regional Meeting on Avian Influenza Control in Animals in Asia in collaboration with WHO and with the support of the Government of Thailand and the Japanese Livestock Technology Association (JLTA) We are pleased to present this report as a complete documentation of this meeting which took place in Bangkok, Thailand, from 26 to 28 February 2004.

The main objectives of the meeting were to assess the situation faced by affected and neighbouring countries, to evaluate the achievements of control activities put in place two months after the beginning of the crisis and to elaborate control strategies with measures adapted to the local situations.

The meeting was attended by the OIE Delegates or their representatives of all the countries of the region, experts from FAO, OIE, WHO, ASEAN and SAARC, and by international experts and donor representatives. The presentations and the discussions that followed allowed the broad objectives of the meeting to be met. There is now an improvement in the transparency and accuracy of the information on the situation and a common understanding of the control strategies, including the use of vaccines if applied with adequate monitoring. The impact of the disease needs to be assessed more precisely and the origin of the crisis further elucidated. The options for rehabilitation and the policy issues will have to be studied in order to prepare restructuring and restocking programmes.

A document on a global approach of the surveillance and control for transboundary diseases (GF-TADs) was presented along with a document detailing the financial requirements for halting the spread of the disease and promoting recovery through, short-, medium- and long-term investments opportunities at national, regional and international levels. These two documents which are also included in this report were endorsed by the meeting as reference framework for further discussions between countries and donors.

A final recommendation was endorsed for the organization of a further regional meeting with the OIE Delegates of affected countries and those at risk, to evaluate the situation by mid 2004.

We wish to thank all participants, the Governments of Thailand and Japan as well as WHO for their contribution to the success of the meeting.

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## A – Programme

*Thursday, 26 February 2004*

11:00-13:30: **Registration**

### **Opening Session**

**Chair: Dr. Samuel Jutzi, Director, Animal Production and Health Division, FAO**

13:00-14:00:

- Introductory remarks: Dr. Samuel Jutzi, FAO, Rome
- Address by WHO: Dr. Bjorn Melgaard, WHO Representative to Thailand
- Address by FAO: Dr. He Changchui, FAO Assistant Director-General / Regional Representative, Asia and Pacific
- Address by OIE: Dr. Bernard Vallat, Director-General, Paris
- Opening address by H.E. Mr Newin Chidchob, Deputy-Minister of Agriculture and Cooperatives, Government of Thailand

14:00-14:30 Coffee break

### **Session I: Situation in participating countries**

14:30- 18:00

**Chairperson: Dr. Dewan Sibartie, OIE**  
**Rapporteur: Dr. Hans Wagner, FAO**

Countries where the disease has been reported: A written report will be prepared in advance by each country and presented at the meeting: 10 minutes presentation and 5 minutes discussions.

- Cambodia
- China
- Indonesia
- Japan
- The Republic of Korea
- Lao PDR
- Pakistan
- Thailand
- Vietnam
- Other reports

18:30 – 20:30 Dinner hosted by the Government of Thailand

*Friday, 27 February 2004*

08:30 – 10:15

**Chairperson: Dr. Karim Ben Jebara (OIE)**  
**Rapporteur: Dr. Emmanuelle Guerne Bleich, FAO**

Declared non-infected countries: Report on preventive measures. A written summary is to be prepared and submitted in advance by each country. Presentations are to be of 5 minutes duration.

- Australia
- Bangladesh
- Bhutan
- Brunei
- The Democratic People's Republic of Korea
- India
- Malaysia
- Myanmar
- Nepal
- New Zealand
- Philippines
- Singapore
- Sri Lanka
- Timor Leste

10:15 – 10:45                      Coffee break

## **Session II: Specific issues**

**Chairperson: Dr. Joseph Domenech, FAO**  
**Rapporteur: Dr. Dewan Sibartie, OIE**

- |                 |   |                              |
|-----------------|---|------------------------------|
| ➤ 10:45 – 11:15 | Quality of Veterinary Services                          | Dr. Bernard Vallat, OIE      |
| ➤ 11:15 – 11:45 | Surveillance, Diagnosis and<br>Biosecurity and Research | Dr. Juan Lubroth, FAO        |
| ➤ 11:45 – 12:15 | Disease Notification                                    | Dr. Karim Ben Jebara, OIE    |
| ➤ 12:15 – 12:45 | Human Health Issues                                     | Dr. François. X. Meslin, WHO |

12:45 – 14:00                      Lunch

**Chairperson: Dr. Bernard Vallat, OIE**  
**Rapporteur: Dr. John Edwards, OIE/SEAFMD**

- |                 |   |                              |
|-----------------|---|------------------------------|
| ➤ 14:00 – 14:15 | Welfare aspects and carcass disposal              | Dr. John Galvin, Australia   |
| ➤ 14:15 – 14:30 | Vaccine and Vaccination                           | Dr. Véronique Jestin, France |
| ➤ 14:30 – 14:45 | Trade issues, sanitary and food safety<br>aspects | Dr. Dewan Sibartie, OIE      |

14:45 – 15:00                      Coffee break

**Chairperson: Dr. Rafaqat Hussain Raja, CVO, Pakistan,  
Rapporteur: Dr. Subash Morzaria, FAO**

- 15:00 – 15:20 Economic issue including trade Dr. Anni McLeod, FAO
- 15:20 - 15:40 Restocking and rehabilitation Dr. Emmanuelle Guerne Bleich, FAO
- 15:40 - 16:00 Economic impact of AI in Thailand Dr. Nipon Poapongsakorn, TDRI

### **Session III: Possible Strategies**

**Chairperson: Dr. Teruhide Fujita, OIE  
Rapporteur: Dr. Juan Lubroth, FAO**

- 16:00 – 16:20 Presentation of the conclusions of the E-Forum  
(Criteria, feasibility, cost, capacity building, communication)  
Dr. Joseph Anelli, USA
- 16:20 – 18:00 General discussions

18:30 – Official reception offered by OIE

*Saturday 28 February 2004*

### **Session III (cont'd): Possible Strategies**

**Chairperson: Dr. Gardner Murray, CVO, Australia  
Rapporteur: Dr. Anni McLeod, FAO**

- 08:30 – 11:00 Proposed strategies by country (divided into groups)
- 11:00 – 11:20 Coffee break
- 11:20 – 12:00 Reports of the 4 groups (10 minutes each)
- 12:00 – 12:30 General discussion
- 12:30 – 14:00 Lunch

### **Session IV: Regional and international coordination and donors' views**

**Chairperson: Dr. Samuel Jutzi, FAO  
Rapporteur: Dr. Teruhide Fujita, OIE**

- 14:00 – 14:20 The Avian Influenza crisis and GF-TADs  
Dr. Joseph Domenech, FAO
- 14:20 – 14:25 Presentation by FAO Regional Office  
Dr. Hans Wagner, FAO

- 14:25 – 14:35 Presentation by OIE Regional Office  
Dr. Teruhide Fujita, OIE
- 14:35 – 14:50 Presentation by WHO Regional Office  
Dr. M. E. Miranda, WHO
- 14:50 – 15:30 Donors' and Regional Organisations' views (5 to 10 minutes each)  
ASEAN  
SAARC  
ADB  
EC
- 15:30 – 16:00 Coffee break
- 16:00 – 16:30 Donors' and Regional Organisations' views (continued)  
World Bank  
Australia  
Canada  
Japan  
New Zealand  
UK  
The Netherlands

## **Session V: Conclusions and recommendations**

**Chairperson: Dr. Bernard Vallat, OIE**  
**Rapporteur: Dr. Joseph Domenech, FAO**

- 16:30 – 17:20 Presentation and adoption by the meeting

## **Closing Session**

- 17:20 Closing of the meeting
- 17:30 Press Conference

## B – List of Participants

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## **C – Speeches**

- (1) Introductory remarks by Dr. Samuel Jutzi, Director, Animal Production and Health Division, FAO, Rome, Italy
- (2) Welcome address by Dr. He Changchui, Assistant Director-General and Regional Representative for Asia and the Pacific, Food and Agriculture Organization of the United Nations, Bangkok, Thailand
- (3) Opening Speech by his Honourable Excellency Mr. Newin Chidchob, Deputy Ministry of Agriculture and Cooperatives, Thailand
- (4) Opening Speech by Dr. Bjorn Melgaard, World Health Organization (WHO) representative, Bangkok, Thailand
- (5) Opening Speech by Dr. Bernard Vallat, Director General of the World Organisation International des Epizooties (OIE), Paris, France

**Introductory remarks by Dr. Samuel Jutzi**  
**Director, Animal Production and Health Division, FAO**

Ladies and gentlemen, Colleagues, I have the honour and pleasure to chair this opening session. As one of the organisers of this meeting, I take the liberty to express a few sentences of welcome and intent. This is the third international meeting on the avian influenza crisis in exactly one month. The cycle started with the regional ministerial meeting called by Prime Minister Thaksin of Thailand on 28 January in Bangkok. I quote one single sentence from Prime Minister Thaksin's opening address: I quote: "To contain a fast-spreading virus, countries need to respond promptly, act with transparency, obtain reliable scientific data, and share information and experiences with one another" unquote. The cycle of meetings continued on 3 and 4 February with the expert meeting called by FAO, OIE and WHO in Rome which reiterated such appeals to countries and it continues today with this meeting, again hosted by the government of Thailand and this time with the presence of those who can and have to bring about change on the ground in countries. What is very encouraging is the presence of representatives of several donor agencies and donor countries which is an indication of their determination to support the on-going effort to deal with this unprecedented crisis in the affected countries at risk.

FAO, OIE and WHO are all determined to help facilitate such efforts so as to avert further damage to the economy and society. I suggest that we all use these two and a half days to the maximum to come up with concrete conclusions and agreements so as to affect this change on the ground rapidly and sustainably.

Before I invite the representative of WHO, FAO and OIE to submit their statements and before I invite the representation of the Thai government to open this meeting, I would like to convey to the best wishes of Prof. Louise Fresco, the Assistant-Director General of FAO in charge of the Agriculture Department, for a most positive outcome of the meeting.

Thank you,

**Welcome address by Dr. He Changchui**  
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His Excellency Newin Chidchob, Deputy Minister for Agriculture and Cooperatives Thailand, Dr Bernard Vallat, Director-General, World Organization for Animal Health (OIE), Dr Jutzi, Director of FAO's animal production and health division, Representatives from the World Health Organization and the Japan Livestock Technology Association, distinguished participants from many countries, representatives of the donor community, members of the commercial sector, distinguished guests and observers, Ladies and gentlemen, I have the privilege to welcome you to the Emergency regional meeting on Avian Influenza control in animals in Asia. On behalf of Director-General Jacques Diouf, I should like to express the gratitude of FAO to the Ministry of Agriculture and Cooperatives of Thailand for generously hosting this meeting, and the World Organization for Animal Health (OIE) for co-organizing this event with FAO. I would also like to thank the World Health Organization and the Japan Livestock Technology Association (JLTA) for their support and valuable contribution.

At this juncture, a key sector of food and agriculture is fraught with challenges of irrefutable and compelling nature. The bird flu disease indeed constitutes a major constraint to chicken production and the safe utilization of poultry products by consumers around the world. Sustainable healthy animal production, veterinary public health, food security and safety, rural development and livelihoods as well as trade are compromised by the rapid and large scale outbreak of highly pathogenic avian influenza since the beginning of this year.

In this context, it is untoward for its managers to wonder how long the world, how long Asia will need to cope with the avian influenza emergency. Although the pattern of decisions by governments and their regional and international partners in the last few weeks has been encouraging for those who devote their careers and pledge their commitment and experience to serve public and animal health, a further acceleration of our capacity to consolidate and expand the fight against the bird flu disease is the central theme as well as expected outcome of your meeting over the next three days.

I should like to recall that the Thai government has provided regional leadership by calling a ministerial meeting on the current animal disease situation on 28 January of this year. FAO was called upon as a resource organisation, and noted the commitment of the Asian countries and their partners who were represented by ministers of agriculture and public health, or their senior representatives.

This political initiative was followed immediately by a technical consultation on the control of Avian Influenza on 3 and 4 February at FAO Headquarters in Rome. The panel concluded that the current epidemic in Asia is rapidly evolving and anticipated it to continue to expand both in geographical distribution and incidence. As an emergency measure, the panel recommended that control programmes be immediately intensified and monitored and that public education in veterinary training and national and regional capacity building should be an important part of the development of long term surveillance and control of Highly Pathogenic Avian Influenza (HPAI) and other priority diseases. Rehabilitation and restructuring of the sub sector should duly reflect the dire needs and importance of the smallholder sector.

Ladies and gentlemen, it is estimated that the Eastern and Southeastern parts of Asia share a population which approaches 6 billion birds. Major subpopulations are found around the rapidly expanding mega cities. A sizeable part of this poultry population remains with the smallholder sector. It is indeed estimated that some 200 million farmers, keeping somewhere between 10 to 100 birds - mainly

chicken, ducks, geese, turkeys and quail - constitute a vitally important contribution to the food and income security of the rural sector in Asia

While recognizing the public health significance of avian influenza, the disease has a serious impact on the poultry industry, including poultry producers, processors, traders, food vendors and people employed in the poultry sector by allied industries. FAO is particularly concerned with the loss of livelihoods of the resource-poor smallholder farmers in affected countries and regions, who have limited or weak to no capacity to recover from their losses.

The current avian flu epidemic can be considered a part of the process of global change. Traffic and trade dynamics create conditions for pathogens to hitchhike around the world at unprecedented speed and frequency. Climate change alters the distribution of insect vectors, influence bird migration and livestock concentration. Urbanization, income rise and dietary changes create a demand for increased animal production. Poultry industries are expected to continue to expand rapidly in most countries in Asia for the next two decades. These could be accommodated only with the promotion of good farming and marketing practices, and regulated by the public sector.

Support from the donor community is required today for Emergency Response, tomorrow for Emergency Prevention, and beyond these for Rehabilitation and Restructuring, and long term surveillance and prevention. All these components should be viewed together as without integrating the required immediate, medium and long range responses there will be no effective containment of the current emergency.

The current emergency is therefore multi-faceted. We have:

- An animal health emergency. At least 100million birds have died or have been destroyed. The source of the disease is not yet known and its epidemiology is not clearly understood.
- A livelihoods emergency. The livelihoods of smallholder poultry producers continue to be at risk
- A social emergency. It poses a threat to human health (20 deaths so far), feelings of personal insecurity and uncertainty about the future. The already poor and vulnerable have limited capacity to cope. Paranoia is likely to affect tourism to the Region.
- An international economic emergency. To date, 10 countries are known to be affected. Domestic and international trade has been disrupted. Many countries have banned the import of poultry products.
- An institutional emergency. National institutions have struggled to contain the disease domestically, and international institutions are rushing to develop a concerted response. International animal health regulations are becoming increasingly more stringent in response to a series of crises, so that countries must plan not only to return to the status quo but to strengthen their institutional capability.
- An immediate and a long term threat. The disease has not yet been contained. It may continue to spread, or re-emerge in the future. It constitutes a threat to livelihoods, human health, domestic and global trade, national protein supplies with potential consequences for both developing and developed countries.

The responses must therefore also be multi-faceted. They must cover the immediate emergency as well as the longer term strategies for disease prevention and the development of the livestock sector, taking into account:

- animal disease - with such issues as strengthening of national veterinary services surveillance, development of contingency plans, proficient and reliable diagnosis, enabling legislation, public awareness, international reporting obligations and communication and cooperation between countries for disease control/eradication and multidisciplinary research

- households livelihoods and how best these can be preserved and improved
- economics at national and international level, including trade and
- institutional strengthening and collaboration

Ladies and gentlemen, allow me to briefly touch on the support provided by FAO to the countries in the region. On the specific request of governments, the Organization's Technical Cooperation Programme has provided emergency funds to the tune of \$6.5 million. Six national and three inter-country emergency projects are now underway and FAO experts continue to be in the field together with senior veterinary government officials in several Asian countries to help investigating the origin and dynamics of the disease, to implement control. The current avian influenza outbreaks serve as a wakeup call for building an effective regional network on surveillance, monitoring and early response system to natural disasters as well as enhancement of national capacity in disaster prevention and control. This is a challenge – both in the immediate term as the emergency operation is costly, and in the long term, the rehabilitation and sustainable development will require comprehensive policy review and the necessary restructuring of the livestock sectors.

I should therefore like to reiterate our call for support from the international community and donor organizations. The world has a stake in the success of the efforts to control the bird flu and resume healthy production. Poorer countries urgently need financial and technical assistance. This is also a call to donors, realizing that the fight against bird flu will take longer than we thought, and it will be enormously costly. Furthermore, it is not a task of the agricultural sector but requires the cooperation of various government agencies, farmers, producers and consumers at large.

Ladies and gentlemen, I hope that your present consultations will help the countries to exchange information and views on various aspects of avian influenza control and will come up with well-framed, integrated and viable plans and approaches for the regional goal of controlling the disease and improving livestock productivity and peoples livelihoods.

I also dare to anticipate that your genuine efforts will help to achieve effective regional cooperation. I furthermore hope that the proposals and conclusions of the meeting will be found to reflect a reasoned and comprehensive analysis of the requirements of the day, and that they will be found acceptable as to the general directions the region and the world should be taking in the immediate and medium-term for the control of avian influenza in animals.

I wish you all a successful meeting.

**Opening Speech by Mr. Newin Chidchob**  
**Deputy Ministry of Agriculture and Cooperatives, Thailand**

Distinguished representative from the Food and Agriculture Organization of the United Nations (FAO), Director General of the International Office of Epizooties (OIE), Representative from the World Health Organization (WHO), and all specialists,

I am pleased and honoured to be present at a meeting of such great importance, and would like to take this opportunity to thank the Food and Agriculture Organization and the International Office of Epizooties who have recognized the significance of the Avian Influenza problem, and agreed with Thailand to jointly host the technical meeting between the 26th – 28th February 2004 here in Bangkok.

On the 28th of January 2004, Thailand had hosted a 12-nation Agriculture and Public Health Ministerial Meeting. It is currently evident from the spread of Avian Influenza and the economic, trade and social repercussions, that the problem is not merely regional, but has become a global and multi-faceted problem involving animal health, human health, food security, the economy and society. Even countries that are not facing an infection problem domestically have had to experience the adverse impacts of the disease indirectly. For example, they have had to employ protective measures to ensure that the virus would not spread into their country, and implement import control measures of poultry and poultry products, which in turn affected their population's feed security status, both quantity-wise and price-wise.

Present production for chicken and chicken products amount up to 48 million tons a year, and of this production, 6 million tons are traded internationally. The Avian Influenza crisis in Asia and North America has seriously affected the poultry trade, reducing it by 3.5 million tons and increasing the world price of chicken by 50%. This has had a great effect on the food security of many countries importing poultry products.

Thailand had never experienced the spread of avian influenza up until last months. Over this period, we have taken measures which have effectively eliminated most of the problems with regards to the spread of the epidemic, and the government is currently undergoing active surveillance on the situation. The most important consideration right now is the formulation of a strategy for the future development of poultry farming that ensures FAO's policies on food safety and food security. The strategies can be summarized as follows:

1. Ensuring public awareness: Informing and educating the public about Avian Influenza, and protecting and ensuring the health and safety of consumers is essential during the spread of the disease in order to prevent panic and misunderstandings by the public, which can eventually create drastic economic and social effects both in the long term and the short term. Keeping the farmers and producers informed is just as important. They need to be kept notified about the extent of the spread of the disease, movement control of poultry, and techniques and sanitary measures that should be implemented for their own safety, those that need to be implemented to prevent the spread of the disease.

2. The Thai government places great emphasis on the utilization of new technology and bio-security methods for the recuperation and development of the poultry farming system: Like many other developing countries, Thailand has various poultry farming systems ranging from commercialized farming to small-scale farming for household consumption. Therefore, concept of a bio-security system featuring technology that compartmentalizes farming is an important strategy. In order to

realize this bio-security goal, Thailand has come up with long-term strategy for systematic poultry farming as follows:

2.1 Categorize farming standards into 3 levels. The first one being large, commercialized farming, second being medium-level commercialized farming, and the third being small-scale farming. The farms can be categorized according to their risk levels with regards to the intuition of a disease. This can be deduced from the given the surrounding environment, population in the area, measures being to avoid the spread of the disease, animal health services available, and movement control of poultry. The government will support with financial animal package to various farmer to improve the infrastructure. Of their farms, and provides standard certification for products from farms that have achieved the set benchmarks and standards.

2.2 Establishing an early warning system by capacity building of the Department of Livestock Development to surveillance in areas of high risk, to control movement and transportation of poultry in order to prevent the spread of the disease, and to perform frequent random tests and sampling from farms.

2.3 Registration and stricter controls are going to be a requirement for the breeding of native chickens as pets. Since this kind of poultry is often transported, stricter controls include frequent, regular health checks to avoid the spread of diseases through these animals.

3. Thailand will develop research and development technology in collaboration with international organizations and involved countries, in order to develop guidelines in the prevention of the disease in the future, both in terms of disease diagnosis, risk assessment, and future preventive measures.

4. Restructure of the poultry trading will be introduced to the processing factories and local poultry market to ensure modern sanitation and promote the change of processing to increase cooked items in the future.

5. The government will establish a mechanism to compensate poultry farmers who have been adversely affected by the spread of Avian Influenza. This mechanism will include risk insurance, whereby such outbreaks will be treated in the same manner as natural disasters.

As a final point, I would like to express, on behalf of the Thai government, our hope that these 5 strategies mentioned will be seriously considered during for all the specialists attending the meeting, bringing about the recommendation, and that the International Office of Epizootics and the Food and Agriculture Organization of the United Nations would take into consideration the principles on Bio-security and the guidelines on Compartmentalization farming so as to adjust the technical regulations related with poultry farming which can ensure the future food safety and food security of the global community.

Thank you,

**Opening Speech by Dr. Bjorn Melgaard  
World Health Organization Representative, Bangkok, Thailand**

Your Excellency Deputy Minister Newin Chidchob, Dr Changchui He, Assistant Director General, Regional Representative Asia and Pacific, FAO, Dr. Teruhide Fujita, Regional Director, OIE, Distinguished guests, ladies and gentlemen: Thank you for inviting us to address you at this important meeting.

The world Health Organization wishes to congratulate the FAO and the OIE, for organizing this emergency meeting on avian influenza control and bringing together prominent experts and representatives from so many countries.

For what seems like a very long time now, but is in fact just a few months, the world has faced a significant threat to human health from the avian influenza outbreaks in eight countries in the Asia – Pacific region. These outbreaks of H5N1 have been unprecedented in scale and geographical spread. Not only have they threatened human health globally, they have also inflicted significant damage on commercial agriculture and, most painfully, on individual farmers and their families.

The threat to global human health is that the avian influenza virus can acquire the ability to easily infect humans. It then can develop the ability to pass between people. In such a situation we face the risk of major pandemic.

The conditions in affected counties and elsewhere are ripe for the emergence of just such a pandemic strain of the influenza virus. If this pandemic virus appears, it will have profound consequences for all people in the region and globally.

Fortunately, such a pandemic strain has not yet emerged. The threat to global health is still in the box, but it remains a major cause of concern.

More than 30 human cases have been confirmed in Vietnam and Thailand after having been exposed to sick birds, and around 70% of these people has died. About 100 million birds have died or have been culled. This proportion tells us the virus has yet to acquire the ability to move efficiently from human to human. We still are working in a window of opportunity.

This is why it is so vital for agricultural and public health officials throughout the region to continue work to reduce this threat to both animals and humans FAO, OIE and WHO are here together to assist.

It is clear that the avian flu epidemic is not yet under control. As some outbreaks are eliminated, new ones erupt. A short while ago, certain area were declare free of avian influenza; but then, just days later, fresh outbreak occurred in those very same areas. This has often been the situation in H5N1 outbreaks in other countries. It took the United States two years to eliminate an outbreak in the 1990s. Other outbreaks elsewhere have taken even longer. From these and other experiences, we know how difficult it is to stamp out this disease.

The threat to human health will last as long as avian influenza persists in the environment. That is why pandemic preparedness is one of our priorities, the other being reduction of human exposure, surveillance and research.

WHO has multidisciplinary teams in several countries, supporting national staff in clinical management of cases, strengthening surveillance to improve detection of cases reducing human exposure and strengthening laboratory diagnostic capabilities.

WHO is also helping to coordinate efforts to develop a human vaccine for avian influenza. I can report to you today that work is no schedule. A vaccine could be available shortly for vaccine manufacturers to begin small scale production, so that safety and efficiency studies can be conducted.

More needs to be done, of course. WHO is continuing to ask all affected nations to send strains of avian influenza virus to WHO's global network of reference laboratories. Studying these strains and all their variants is essential to the understanding of the development of this disease and its human pandemic potential.

Government, FAO, OIE and WHO have a common goal to eliminate avian influenza. Measures which reduce the risk to humans will also reduce the threat to agriculture and to those whose lives and incomes depend on this sector.

Eliminating avian influenza through safe culling and other measures benefits everyone.

It is important to stress the need for human and environment safety. This includes the protection and monitoring of people involved in the culling of flocks – including safeguarding any children that might be exposed.

We are also concerned about the safe disposal of animal carcasses, to prevent viruses from being released into the environment which could end up affecting animals and human alike.

Like FAO and OIE, WHO recognizes the huge economic toll these outbreaks have wrought on government and individuals alike – At the same time we must safeguard the health of people.

In many regions with huge poultry populations, those at most risk of being infected are people raising poultry in backyard farms.

We together face a formidable challenge in combating the avian influenza outbreaks. Long term surveillance of human and animal health, and rapid and transparent reporting is essential. It is important for nation and global confidence that all these requirements be appropriately addressed.

We've come a long way in these past few months. And we have long road ahead of us. This meeting is an important milestone towards our common goals.

**Opening Speech by Dr. Bernard Vallat**  
**Director General of the World Organisation for Animal Health (OIE)**

Honourable Minister, Distinguished Delegates of the OIE, Representatives of International and Regional Organisations, Honourable participants

First, I would like to express my thanks to the Government of Thailand for hosting this very important meeting. I would also like to thank all the participants for having accepted the common invitation of the OIE and FAO to attend this meeting. Our common objective is to help countries of the region in the great challenge for the control and eradication of avian influenza. As you know, in collaboration with FAO, we started by sending experts to countries which requested technical support and by organising a meeting in Rome at the beginning of February comprising the best scientists in the world, some of them being selected from the worldwide network of the OIE Reference Laboratories. That meeting provided recommendations on the effective methods of control of the disease. This current meeting has been organised in order to discuss those recommendations with all the infected countries as well as neighbouring countries which are planning to protect themselves. In fact, the methods used to control the disease have to be adapted to the specificities of each country. We are expecting the inputs from each country in order to recommend the relevant strategies on a country to country basis. We have also invited all the international, regional and bilateral donors interested in providing technical and financial resources for countries which would request external assistance. In fact it is a unique opportunity for national representatives to meet with donors during this meeting and to discuss relevant actions to be taken where necessary.

From an OIE point of view, this situation in Asia is unprecedented in the world. Never in the past have we witnessed an avian virus circulating so quickly in such a large part of the world. We think that three main factors are at the origin of this crisis:

- we have a very aggressive strain of H5N1, with a strong capacity for spread,
- we have in many parts of the region, important human concentrations of small farmers with familial backyards of free ranging animals and in some cases close cohabitation with industrial production,
- official Veterinary Services do not have sufficient skills and resources for animal disease surveillance, early warning information system and the management of control methods.

I am convinced that this situation has to be solved by two categories of measures: short term and medium term actions. For the short term, the priority is to stop the virus at source by killing infected or in-contact animals. This is the best method to control the disease wherever possible but many issues have to be solved: adequate compensation for farmers, management of carcass disposal compatible with environmental risks and use of acceptable methods of killing.

In some parts of the region, the use of vaccination will be compulsory, particularly when the virus is circulating in many regions of a country. But irrational use of vaccination could be dangerous. Negative effects could be linked with non appropriate strategies: chronicity of the disease for a long time, inability to recover export capacity if it is not possible to differentiate vaccinated animals from surviving infected animals. The choice of the vaccine and its quality are crucial in order to face these issues. All the points described above will be discussed during the conference.

The OIE will participate fully in the discussions because our Member Countries have already adopted or are in a position to adopt in the near future, many OIE international standards, guidelines or recommendations dealing with the following issues:

- safety of trade of animals and products,
- diagnostic methods,

- quality of vaccines to be used,
- methods of killing poultry,
- carcass disposal,
- transparency and early warning on surveillance and notification of animal diseases and zoonoses.

All information useful for our discussions is included in a CD Rom that will be distributed during the conference.

For the medium term and in order to avoid other epizootics not only in poultry but also in other animals such as pigs or cattle (foot and mouth disease, classical swine fever, bovine spongiform encephalopathy etc) it is crucial to start with basic thinking on some priority questions:

- how to make an efficient surveillance in the field in order to detect early priority animal diseases and zoonoses and how to implement timely control measures before the spread of the pathogens
- how to prepare emergency plans to be rapidly implemented under the authority of the administration,
- how to involve farmers and private veterinarians in the early detection and notification of the disease event to the Veterinary Administration
- how to improve the transparency and the independence of Veterinary Services and diagnostic laboratories in the interest of both the national and the international community?

I will present later a summary of the OIE standards on quality and evaluation of Veterinary Services and I think these will provide a relevant basis to start the discussions.

I am convinced that a national network constituted by farmers trained privately on disease matters under the supervision of veterinarians and the veterinary administration is a crucial investment. The cost of this investment is insignificant compared to the enormous losses linked with epizootics and zoonoses. Furthermore, this investment is relevant, not only to one disease but it will also protect against risks from all other animal diseases and zoonoses. This crisis of avian flu is unfortunately an example demonstrating the usefulness of these investments. I hope that our discussions will help us reach solutions adapted to the specific situations of each infected country and will also help other countries to develop strategies and methods to avoid the occurrence of avian flu and other animal diseases and zoonoses.

I wish to thank once more our OIE Delegates and/or their representatives, our experts, our colleagues of FAO and WHO and invite you all to work together to face the avian flu crisis. This is of great interest not only for countries of the region but also for the international community.

Thank you for your attention.

## **D – REPORT OF THE SESSIONS**

### **SESSION I: SITUATION IN PARTICIPATING COUNTRIES**

#### **Known Infected countries**

Cambodia, China, Indonesia, Japan, the Republic of Korea, Lao PDR, Pakistan, Thailand, and Vietnam

**Chair: Dr. Dewan Sibartie, OIE**

**Rapporteur: Dr. Hans Wagner, FAO**

Country reports were presented by delegates from Cambodia, P. R. China, Indonesia, Japan, the Republic of Korea, Lao PDR, Pakistan, Thailand, and Vietnam. Other reports were presented by Professor Tien-Jye Chang on the outbreak in Taiwan (Province of China) and Dr. Trevor Ellis on the experience in Hong Kong.

First outbreaks were officially notified in December 2003 by the Republic of Korea. To date 11 countries/territories/regions have declared outbreaks of highly pathogenic avian influenza (HPAI). The outbreak is unprecedented in its geographical distribution and intensity. More than 100 million birds have died or have been killed in depopulation measures. Twenty-two human fatalities have been reported.

The reports clearly reflect the diversity of poultry production in the different countries which ranges from countries with a dominating family production system with 12-13 birds to integrated systems and highly industrialized systems. The diagnostic capabilities for AI vary from very limited (Lao PDR and Cambodia) to extremely specialised (China, the Republic of Korea, Japan).

Outbreaks have generally been identified after the occurrence of increased mortality and not due to surveillance. The response time from first signs to confirmation of the disease and necessary control steps varied substantially between countries. In countries (the Republic of Korea and Japan) with good veterinary infrastructure and existing emergency plans, control measures were rapidly implemented and the disease contained. In other countries with no diagnostic facilities, samples had to be sent to neighbouring or some other countries to test for the disease, resulting in delays in response and further spread of the disease.

The following are the important issues addressed by countries:

- Active and passive surveillance in most of the countries are insufficient or not available;
- The source of entry of the disease and the cause of its rapid spread are not clear and require further investigations;
- A number of countries have no or very limited diagnostic capabilities to test for AI;
- Most of the countries have no emergency plan in place to face outbreaks. Legislation with regard to depopulation and compensation is not in place in a number of countries;
- All countries have an established emergency task force to co-ordinate control strategies;
- Countries with well structured veterinary services and an established response mechanism were able to contain the disease rapidly with no major further spread;

- Delays of adequate response have contributed to the spread;
- Control strategies follow very closely the FAO/OIE guidelines to control the disease;
  - Declaration of infectious and control zones;
  - Implementation of animal movement control;
  - Depopulation of infected farms and infected zones.
- Three countries (China, Indonesia and Pakistan) adopted a control strategy combining stamping out and vaccination. Other countries have a strict no vaccination strategy;
- Substantial amounts of vaccines are required (billions of doses);
- Different vaccine seed strains were/are used for vaccine production (H5N1, H5N2 and H7);
- Regional co-operation amongst countries is considered important; Thailand presented itself in the position to act as a centre of excellence.

The delegate from Hong Kong reported on the control and surveillance procedures which have been developed and implemented over time. The budget for AI prevention was estimated to amount to about US\$ 4 million/annum.

#### **Non-Infected countries**

Australia, Bangladesh, Bhutan, Brunei, the Democratic People's Republic of Korea, India, Malaysia, Myanmar, Nepal, New Zealand, Philippines, Singapore, Sri Lanka, and Timor Leste

**Chair: Dr. Karim Ben Jebara (OIE)**

**Rapporteur: Dr. Emmanuelle Guerne Bleich, FAO**

- Most of the countries have reacted to the presence of Highly Pathogenic Avian Influenza in the Region, with a ban of importation, movement restriction, increased surveillance and sero-surveillance.
- Three countries (Myanmar, Bhutan and Nepal) have mentioned a need for FAO assistance in terms of surveillance and strengthening of laboratories capability and capacity-building.
- FAO should assist not only the infected countries but also the neighbouring countries in the region that are not infected.
- India expressed the need to have a Regional Reference laboratory.

### **SESSION II: SPECIFIC ISSUES**

#### **Veterinary Services, Surveillance, Notification, and Human Health**

**Chair: Dr. Joseph Domenech, FAO**

**Rapporteur: Dr. Dewan Sibartie, OIE**

#### ***International Commitments of Veterinary Services (Dr. Bernard Vallat)***

Dr. B. Vallat, OIE Director General described the challenges facing veterinary services especially those in developing countries, the main one being the demands of the international community and trading partners for accurate information on animal health status. This requires an independent, reliable and efficient veterinary service capable of implementing standards,

guidelines and recommendations of the OIE. He described the importance to OIE Member Countries of the evaluation of veterinary services for conformity with existing OIE standard on quality and organisation. This evaluation may be a self evaluation to assist national authorities in the decision-making process regarding resources and priorities concerning veterinary services or an evaluation to carry out import or export risk analysis to promote the safe international trade of livestock or livestock products. The scope of the evaluation should include the organisational structure of veterinary services, material, human and financial resources, functional capabilities, legislative support, performance assessments, audit programmes, participation in OIE activities and compliance with OIE Member Countries obligations.

It was suggested that more emphasis be placed on veterinary education to assist veterinary services in effecting self evaluations. The difficulty of veterinary authorities in convincing policy makers on the need to evaluate and strengthen veterinary services was recognised. OIE was continuously updating diagnostic procedures and epidemiological guidelines on specific diseases to assist Member Countries in controlling animal diseases.

***Surveillance, Diagnosis, Biosecurity and Research. (Dr. Juan Lubroth)***

Dr. Lubroth defined active and passive surveillance with respect to avian influenza stressing on markets, abattoirs and wildlife sanctuaries. He explained the importance of disease notifications and the usefulness of negative reporting. He listed the various diagnostic tests available for avian influenza including the DIVA (differentiating infection from vaccination) concept. He underlined that assays can change depending upon the epidemiological situation and that caution need to be exercised when interpreting positive results particularly in areas of low disease prevalence. He also stressed the need for community integration and participation and the collaboration with health authorities. The understanding of the trade of exotic species and the management of fighting cocks are important issues to be considered for the region. Dr. Lubroth also highlighted research aspects of diagnostic kits, vaccines and epidemiological studies. He differentiated biosecurity from an outbreak situation into bio-exclusion and bio-containment (also to be practiced at the laboratory and research levels).

***Disease notification (Dr. Karim Ben Jebara)***

Dr. Ben Jebara stated that one of the major objectives of the OIE was to ensure transparency in the world animal disease situation including zoonoses. He explained the OIE disease notification system which comprises the procedure by which veterinary administrations of OIE Member Countries report to the OIE and how the OIE in turn informs other countries of the suspicion or confirmation of an outbreak of disease in accordance with the provisions of the OIE Code. He also explained the importance of the OIE early notification system and the need for the OIE to receive follow-up reports. He stressed that the OIE animal health notification system is based on the confidence in the official information provided by Member Countries and that the transparency and confidence in the information are prerequisites for good trade relations.

Additional clarifications on the definition of an outbreak and the epidemiological surveillance systems were provided.

***Human Health Issues (Dr. François X. Meslin)***

Dr. Meslin presented the human issues in relation to avian influenza. He indicated the number of human cases including deaths recorded in two countries of the region and explained the surveillance programme in place by the WHO. He warned of the possibility of genetic

reassortment and stressed that risk exposure to humans was dependent on the elimination of the infection in animal reservoirs. He explained the role of WHO in providing guidelines on the protection of workers handling infected birds and the assistance being provided to Member Countries in preventing and /or combating the disease. These included the possibility of developing an H5N1 vaccine for use in humans and other health measures in place such as the provision of antiviral drugs. He spoke on the necessity of preventing the entry of the virus in the human food chain underlining that transmission to humans via food was insignificant.

The need for inter-laboratory collaboration between WHO Reference Laboratories and those of OIE/FAO as well as the Centres for Disease Control and Prevention, Atlanta, USA, was underlined in order to facilitate characterisation of viral strains.

### **Animal Welfare, Disposal, Trade, and Food Safety**

**Chair: Dr. Bernard Vallat, OIE**

**Rapporteur: Dr. John Edwards, SEAFMD Campaign, OIE Bangkok**

#### ***Welfare aspects and carcass disposal (Dr. John Galvin)***

Dr. John Galvin (Australia), Chair of the OIE Ad hoc Group on Humane Killing of Livestock described the recommendations to the Group. He described general principles including the importance of national contingency plans to address animal welfare, skilled and competent personnel, operational procedures, quick and efficient killing processes, restrictions on staffing and the need for immediate death or loss of consciousness. Operational procedures should consider minimal handling, methods of killing, facilities and equipment, order of killing and safety of personnel. He also described a range of killing methods including gaseous (exposure to gases such as CO<sub>2</sub>/air mixture, CO<sub>2</sub>/inert gas, inert gases and carbon monoxide in a closed chamber), mechanical (cervical dislocation, non-penetrating captive bolt, percussive blow to head, decapitation, maceration and free bullets), lethal injection (usually barbiturates) and electrical. He concluded by discussing environmental aspects (location, soil type, proximity to water sources, weather conditions and relevant approvals), biosecurity (security of disposal site, transport route, and speed of disposal), operator safety (protective clothing, experience of personnel, minimize risk to health from chemicals and avoiding human settlements) and logistics (availability of equipment and manpower and costs). He also described options for disposal of carcasses including burial, incineration, composting and rendering. There was discussion on alternatives for killing birds, the use of disinfectants, the need for monitoring water quality and the importance of providing suitable safety equipment.

#### ***Vaccine and Vaccination (Dr. Véronique Jestin)***

Dr. Jestin described the recommendations from the Rome meeting on HPAI and the results of the electronic forum in relation to the role, justification and feasibility of vaccination. It was concluded that for the control of H5N1 avian influenza it was necessary to use all means available including vaccination where appropriate. A targeted approach to vaccination in accordance with the OIE standards and strict movement controls was recommended. She explained that the role of vaccination was to suppress infection by reducing clinical expression, virus load, virus spread and exposure to humans. She also described the constraints and risks and these included the need to maintain high biosecurity, the cost of vaccine, the export consequences, routes of administration, the time required to achieve immunity, the need for

boosters for inactivated vaccines, potential for spread by vaccination teams and the need of surveillance to monitor sentinels. On the topic of vaccine development she addressed the use of vectors, adjuvants, and the availability of H5 vaccination strains. There was discussion on the need for ongoing surveillance and depopulation of infected flocks and the potential for immunosuppressive diseases to reduce the efficacy of vaccines and reduce protection. There was also discussion on the potential for using combinations of vaccines (e.g. inactivated and vectored vaccines, homologous and heterologous vaccines) particularly in layer and breeder flocks. There were comments on the importance of cooperation with health authorities, international attitudes to vaccination and the feasibility of vaccination in a Southeast Asian context and the need for vaccination to be supplemented by a complete range of biosecurity and disease control measures.

***Trade issues, sanitary and food safety aspects (Dr. Dewan Sibartie)***

Dr. Sibartie described the OIE mandate and explained that the OIE Ad hoc Group of experts on AI has proposed new standards for Notifiable Avian Influenza (HPNAI) and these were due for discussions in May 2004 by the OIE International Committee. The key was the new definition of Notifiable Avian Influenza and this was defined as type A influenza virus of H5 or H7 with intravenous pathogenicity index (IVPI) greater than 1.2 or 75% in 4-8 week old chickens or if the cleavage site sequence of the hemagglutination protein molecule is homologous to the characterized HPNAI isolates in the database. He described the trade requirements for birds and avian products of the OIE Terrestrial Animal Health Code in relation to HPNAI. He showed that these varied depending on whether an exporting zone is a free zone or compartment for the disease. He explained that a zone was a clearly defined part of a country and that a compartment was “one or more establishments under a common biosecurity management system containing an animal subpopulation with a distinct health status with respect to a specific disease for which required surveillance, control and biosecurity measures have been applied for the purpose of international trade”. He explained how the trade requirements in the OIE Code were based on risk and varied with different products. He also described how the survival of the virus is affected by the effects of freezing, heating and cooking. He stated that the principal mode of transmission of the virus to man was through the respiratory route and that consumption of poultry products that have been cooked to an internal temperature exceeding 70°C does not present any significant risk. There was discussion on disinfectants for HPNAI and that it may be necessary to take action against low pathogenic H5 and H7 strains because they have the potential to mutate to high pathogenic strains. For trade it was necessary to explore the risks of spread by trade for different commodities e.g. live birds and avian products and the need for surveillance in different circumstances. Dr. Sibartie advised that these matters were addressed in the new Chapter and that the new chapter does not support trade in live birds from infected countries or zones.

**Economic Costs and Rehabilitation**

**Chair: Dr. Rafaqat Hussain Raja, CVO, Pakistan**  
**Rapporteur: Subhash Morzaria, FAO**

***Economic issues and trade (Dr. Anni MacLeod)***

Dr. MacLeod provided a broad framework for socio-economics and policy analysis of AI in Asia. The first area she discussed was the need to determine the economic cost of AI in each affected

country. The second issue addressed was the livelihoods problem, particularly for the more vulnerable small commercial producers, and the third issue she addressed was the problem of institutional weakness such as poor information and lack of transparency with its various impacts. She also discussed the requirements for restructuring of the poultry industry following large losses due to AI. She emphasized the need for developing a long term goal for poultry industry so that the responses in dealing with the problem in the short and long term were consistent with these goals. For long term objectives, an assessment of both comparative advantage and competitiveness in poultry production were required. She highlighted the increasing demand for compliance to safety and quality standards and how this would present a significant challenge for the smallholder farmers. Organisations such as FAO, and donors with a poverty reduction mandate, would be interested to ensure protection for the vulnerable small holder producers in the production restructuring process and would be seeking to identify strategies for alternative livelihoods options for those marginalized by the process. She identified a number of items that would need to be taken into account for restructuring and included the costs for needs assessment, rehabilitation, upgrading or 'exit options' and public sector support. She also highlighted the costs involved to deal with emergency disease situation where the issue of compensation and/or credit needed to be carefully considered.

***Restocking and rehabilitation (Dr. Emmanuelle Guerne Bleich)***

Dr. Guerne Bleich presented the issues related to the socioeconomic impact of AI in the region and identified the backyard poultry farmers as the most vulnerable group needing substantial help in the management and marketing of poultry. In order to assist this group rehabilitate its poultry stock, she suggested that a clear understanding of the socio-economic impact of AI, and the long term implications and needs of the poultry industries in Asia were required. FAO was currently helping the most affected countries (Cambodia, China, Indonesia, Lao PDR, Pakistan, Thailand and Vietnam) through TCP projects of US\$400,000 each and a regional project with the objective of helping each country prepare for a post-AI rehabilitation programme and possible restructuring of its poultry sub-sectors. The major outputs of the assistance would be a) a socio-economic impact assessment, b) options for interventions for both the short- and long-term recovery of poultry sector, and c) decision support tools for identifying appropriate interventions.

***Economic impact of avian influenza (Dr. Nipon Poapongsakorn)***

Dr. Poapongsakorn provided preliminary results of bird flu impact in Thailand using the Thailand Development Research Institute (TDRI)-CGE Model. In presenting his data he detailed the background economic figures used and a number of assumptions made for the analysis. The results showed that the economic impact on Thailand was very small only decreasing the real GDP by 0.5-0.8%, agriculture GDP by about 1.2-1.8% and export by 0.4-0.5%. He identified the decline in labour income as the most visible impact, and showed that the income deterioration was highest in among the poor farm households. The main reason for such a small impact in the short run was due to the fact that poultry is a very small sector (0.4%) of the GDP, the farmers could find alternative employment easily and the negative impact of reduction in poultry consumption was offset by increase in consumption of pork and fish. He also outlined the consequences of withholding information and recommended a number of options to control this. He concluded that that it would take years for Thailand to reach its pre-AI world market share and advised that the government policy should be pro-poor, and small and medium-scale farmers be properly trained in biosecurity measures.

### SESSION III: POSSIBLE STRATEGIES

**Chair: Dr. Teruhide Fujita, OIE**  
**Rapporteur: Dr. Juan Lubroth, FAO**

***Presentation of the conclusions of the E-forum on criteria, feasibility, cost, capacity building, communication (Dr. Joseph Anelli)***

Dr. Anelli, USA, gave an overview of the Electronic Forum for Control of Avian Influenza in Asia. He described 20 functional areas of a disease outbreak response that must be addressed to eradicate a highly contagious disease in three different poultry production systems: (i) Industrial integrated systems with established biosecurity [IIS; producing raw or processed meat and eggs for export or domestic consumption, and includes breeder establishments]; (ii) Commercial non-integrated systems of poultry production with minimal biosecurity [CNIS; producing eggs or live poultry for local markets]; and (iii) Village production of native chickens and fighting cocks. The functional areas include in developing intervention measures are: quarantine and movement control, epidemiology, tracing, surveillance, stamping out, valuation, euthanasia, disposal, cleaning and disinfection, disposition of animal products, biosecurity, risk assessment, strategic vaccination, wildlife management, remote areas, vector control, animal welfare, safety and health (human health aspects), country zoning, and recovery.

Dr. Anelli highlighted the need for a successful incident response management strategy as essential to successful control and eradication based on *An Interagency/Country Incident Management System* that would provide a structure for making a coordinated response in an emergency situation that feeds and is congruent in an internationally used system for coordinated response at the Incident Command System (with timely reporting and compliance). Lastly, a Multi-Country Coordination Group for joint decision making and resource sharing would be essential at the Regional level. In addition he emphasised:

- Against culling wild migrating birds, as this activity could have untold consequences in disturbing natural balances.
- Stamping-out should be done on all populations exhibiting clinical disease
- Rapid compensation to the farmer is critical for encouraging early reporting and for participation in a stamping-out program;
- All persons raising or using such birds should be educated on biosecurity and infectious disease control methods and practices;
- Carcasses and litter should be disposed by biologically and environmentally safe methods such as burial, incineration or composting;
- Industrial systems to be rehabilitated with robust biosecurity measures put in practice;
- Keeping grandparent/parent breeding stock free of infection by biosecurity measures would be key;
- Vaccination in flocks in infected countries would be required since they were a continuing supply of breeding stock (Restocking should be intermediate (between 21 days for large integrated companies and the 45 days suggested for village or native poultry);
- Depopulation, due to infection, would need to be done immediately, followed with repopulation as soon as practicable after cleaning and disinfection of premises.
- Not permitting the mixed farming of ducks and pigs or chickens and pigs was a rather unrealistic suggestion but technically sound.
- Infection in village flocks were not likely to have the size necessary to maintain infection;

- Village poultry were unlikely to be found when the time comes for slaughter because they will be spirited away and this could exacerbate disease spread;
- Village chickens should be twice vaccinated and left alone; apart from extension efforts being made to get separation of chickens (and other land avian species) from ducks and geese (water species)
- The programme at the village level could assist to upgrade poultry husbandry and nutrition for village poultry production that would be reinforced with vaccination for AI, ND etc;

### **Proposed strategies by countries**

Conference participants representing the invited countries were subdivided into four groups according to their country's epidemiological status and needs. These were: (1) China and Thailand – as HPAI affected countries with considerable export markets; (2) Affected countries with resource constraints and internal markets; (3) Countries not known to be affected but at risk; and (4) Wealthier countries/areas affected by HPAI and whose own resources and capabilities did not require assistance (i.e. Japan, the Republic of Korea, Taiwan province of China and Hong Kong, SAR). The four groups were facilitated by a moderator and a rapporteur and participants requested to address the following: national constraints, country strategies, and investment opportunities for immediate, mid-term, and long-term needs and planning. During the General Session, each rapporteur presented the conclusions of the group. It was apparent that all groups had parallel assessments to address the current HPAI crisis. The organisers opted to synthesise these findings in the following section.

**Chair: Dr. Gardner Murray, CVO, Australia**  
**Rapporteur: Dr. Anni McLeod, FAO**

Synopsis of the discussions addressing constraints, strategies and investment opportunities.

#### **Constraints**

- Lack of knowledge of AI epidemiology
  - especially in ducks.
  - understanding of why some countries have had human cases and not others (this may be related to flyways of particular wild bird species)
- Need for guidelines on
  - surveillance, including the size of the surveillance zone
  - epidemiological methods
  - risk management in laboratories where diagnosis is done – preventing escape of virus, protection of personnel
- Communication and information interchange
  - between countries
  - between national ministries and agencies
  - with the mass media
- Lack of diagnostic capacity
  - in the poorest countries, laboratory facilities in general
  - in the better equipped countries, specialist training and reagents
  - concern that serology may not be adequate for active surveillance around outbreaks
- Lack of contingency planning

- Lack of clear policies on compensation, therefore lack of incentives to report disease
- In some cases, lack of finance for compensation

## **Strategies and investment opportunities**

### ***General points***

- Targeted strategies by country and production system, depending on disease status.
- For currently affected countries, stamping out is a high priority
- For those not affected, the priorities are improving access to information about neighbouring countries and building surveillance capacity to detect appearance of disease
- Vaccination is an option where stamping out alone could not be accomplished or where disease is endemic.
- Restocking of premises should be contingent on improving biosecurity
- Donor assistance should be targeted to the poorer countries. Some countries (e.g. Thailand) will use their own resources to the extent possible.
- Expertise exists within the private sector that could be more widely used

### ***Immediate needs***

- Sharing of information (all countries)
- Sample collection to national and reference laboratories
- Work quickly to improve understanding of basic definitions
- Help with costs of diagnosis and stamping out (affected countries)
- Help with diagnostic methods (China)
- Help with culling methods and operation (China)
- Assess compensation needs and establish mechanism to administer timely compensation

### ***Medium and long term needs***

- Epidemiological studies, especially of duck population and transmission between ducks and wild birds
- Improve surveillance capability
  - low capacity laboratories need help with surveillance and packing specimens for dispatch send to other laboratories
  - medium capacity laboratories need PCR primers and in some cases readers, specialist training in diagnosis
  - high capacity laboratories need PCR primers, could offer training to others
  - for countries with limited epidemiological capacity, training is needed in epidemiological techniques
- Improve regional co-ordination
  - regional approaches to training and capacity building
  - a regional reporting network, using an existing regional structure like SEAFMD, SAARC
- Update international / regional guidelines on
  - surveillance, including the size of the surveillance zone (OIE has a draft revision of the chapter of AI control, this will be finalised after discussions during the General Session in May, 2004).
  - risk management in diagnostic laboratories – preventing escape of virus, protection of laboratory personnel – operations control and human resources management are key factors.

- Vaccine quality control should be done by independent agents – possibly national, possibly international, possibly private.
- Improve communication with the mass media and the public to prevent unnecessary stress / panic / damage to markets
- Improve information systems, for countries that still have paper based systems: consider establishing an electronic system (e.g. Thailand)
- Develop contingency plans against risk of future outbreak in countries that do not already have them. Plans will need to be targeted to needs of countries and production systems (and may need to take into account seasonal risk)
- Sectoral planning
  - market re-establishment for affected countries
  - even countries not currently affected with HPAI still need to decide where to focus the poultry industry in the future

#### **SESSION IV: REGIONAL AND INTERNATIONAL COORDINATION AND DONOR'S VIEWS**

**Chairperson: Dr. Samuel Jutzi, FAO**  
**Rapporteur: Dr. Teruhide Fujita, OIE**

*Dr. Fujita (OIE)* gave a presentation on concept areas and possible future activities for Asia in terms of avian influenza control. These activities can be categorized as capacity building, strengthening veterinary services, regional collaboration/coordination, public awareness, and participation of stakeholders. Mechanisms to conduct these activities were also discussed.

*Dr. Domenech (FAO)* presented matters regarding GF-TADs (Global Framework for the Progressive Control of Transboundary Animal Diseases) and the current Asian influenza crisis. GF-TADs is a joint FAO-OIE initiative prepared to improve the epidemiosurveillance and early warning on TADs. It includes Regional Support Units and a Global Early Warning System, in association with WHO. An FAO-OIE document “Halting the spread of Avian Influenza and promoting recovery” has also been presented, which gives a framework for the preparation of future projects on the control of the disease, restructuring of the poultry sector and restocking. A preliminary evaluation of needs for investment was also given.

*Dr. Wagner (FAO)* briefly introduced FAO/Regional Office for Asia and the Pacific (RAP) which covers forty-three countries in the Asia Pacific Region. He highlighted past and future trends in demand and production of livestock goods in Asia and the Pacific. The increase in livestock production, particularly of pig and poultry, is the basis for the livestock revolution. FAO in its outlook for 2015-2030 predicts that Asia will require substantial amounts of feed grain for the production by monogastric species and will become a net food importer. The intensification and industrialization of livestock production if not properly addressed will lead to serious environmental problems and further contribute to social inequalities. The Animal Production and Health Commission for Asia (APHCA) with 15 member countries address issues of animal health and improved livestock production in the Region. He highlighted the priority areas in livestock supported by RAP: the Pro-poor Livestock Policy Facility (PPLPF), the Livestock Environment and Development (LEAD), GF-TADs, Veterinary public health and food

and feed safety, small scale dairy production and processing and the State of the World's Farm Animal Genetic Resources process. These activities are in line with the priorities identified by the APHCA countries.

**Dr. M. E. Miranda (WHO)** gave a presentation on regional support of WHO for the veterinary sector. The epidemiology of H5N1 infection in humans compared with in animals was demonstrated. In her presentation the following aspects were included: (1) WHO AI in web-site, and (2) Contributions by donor countries to WHO Regional Office for an AI outbreak response which were allocated to China, Vietnam, Lao PDR and Cambodia.

**The session was followed by presentations from donor agencies.**

**Dr. Siddiq (Asian Development Bank)** recognised the AI current situation in the region, the basic policy of the bank to support poverty alleviation, and close collaboration with FAO, OIE and WHO for technical aspects. He provided some comments on the importance to create more scientific and analytical capacity at a regional level to better guide and harmonize AI containment efforts, and additional expertise support.

**Dr. Msellati (World Bank)** emphasized that sanitation and food safety are important areas for the bank, and recognized the disease as an increasing global burden. Loans might be available, when the bank is requested for AI prevention and control programmes with adequate involvement of all stakeholders and the link with intervention to broader agenda.

**Dr. Wilson (EC)** discussed the support to combat AI, with some observations of transparent information, vaccination in combination with the intensive surveillance programme. He also put an emphasis on risk analysis in terms of SPS matters.

**Dr. Soerakoesoemah (ASEAN Secretariat)** mentioned that ASEAN will promote regional activities to achieve international requests with regard to AI control by using the existing mechanism of the ASEAN (Livestock Sector Group).

**Dr. Naseer (SAARC Secretariat)** reported outcome of the emergency meeting of the senior officials from the SAARC member countries held in India on 16 February 2004 and that the plan for prevention and emergency response against AI was developed. He expressed the importance to strengthen control measures in cooperation with international organisations.

**Dr. Walker (AusAID)** explained the principles of cooperation for AI control under the condition of support by FAO, OIE and WHO, implementation of programmes through the channel of Chief Veterinary Officers (CVOs) and Chief Medical Officers, extension of cooperation to least developed countries, linkages with China. He illustrated AusAID assistance in three sub-regional programmes which were on-going, including functions of OIE SEAFMD Regional Coordination Unit as a possible model.

**Dr. Yoshimura (Ministry of Agriculture, Forestry and Fisheries, Japan)** recognized AI as an emergency problem for the region, and explained that cooperation had been extended through the existing programmes including the Japan-Thailand and neighbouring countries project, based in Bangkok and the animal health project in Vietnam to improve diagnostic capability. Japan had stopped the importation of poultry and its products from the AI infected countries, and reviewed animal health conditions to resume the importation of heat processed poultry products. He also

explained Japan's cooperation for public health including trust funds to WHO, and technical and financial support to Vietnam.

*Dr. Murray (Australia)* reported on behalf of the delegate from New Zealand that New Zealand accepts the guidelines of OIE/FAO/WHO and is ready to pursue the collaboration.

*Dr. Bazeley (DFID, UK)* discussed two phases of cooperation: the short term with an emphasis on consistency and transparency, and more information on socio-economic impacts; and, the long term involving public good intervention, decentralization, and relationship with public partners. DFID provided 17 million US\$ to FAO for a programme to develop for livestock policies. He also indicated that countries and donors have to revisit the current concepts on the task of public sector for better implementation of animal health public policies.

*Dr. Slingenberg (the Netherlands)* explained the AI experience in 2003 and consumers demand on transparent information. The country had assisted in providing protection equipment through multi-lateral channels and would be able to share the expertise on the crisis management upon request.

## **SESSION V: CONCLUSIONS AND RECOMMENDATIONS**

**Chair: Dr. Bernard Vallat, OIE**

**Rapporteur: Dr. Joseph Domenech, FAO**

During the session, the conclusions and recommendations prepared by groups, which included representation of countries, donors, FAO, OIE, WHO and experts, were presented by the chairman of the session and discussed by the participants. The final conclusion and recommendations are the following:

**CONCLUSIONS AND RECOMMENDATIONS OF THE JOINT FAO/ OIE  
EMERGENCY MEETING ON AVIAN INFLUENZA CONTROL IN ANIMALS IN ASIA  
BANGKOK, THAILAND 26-28 FEBRUARY 2004**

**Situation, Notification, Achievements**

**1. Conclusions**

– *Situation and Notification:*

- Heavy losses in poultry populations commenced in the region in mid 2003. Starting in Dec 2003, 8 countries<sup>1</sup> in the region have reported confirmed outbreaks of H5N1 to OIE. Since early Feb. 2004 outbreaks have not been reported from additional countries.
- The geographic distribution, rate of spread and severity of this epizootic are unprecedented. It is estimated that more than 100 million birds have died or have been killed in stamping out measures following OIE guidelines. Two countries have used vaccination as an additional disease control tool (Indonesia and China). In addition, Pakistan is currently experiencing an outbreak of H7N3 and has adopted a strategy of stamping out combined with vaccination.
- The origin of the H5N1 outbreak and the mechanism(s) for its rapid and vast dissemination, both nationally and internationally, are not yet understood. The disease has had disastrous effects on the poultry industry through its impact on international trade and domestic consumption of poultry products. The public health impact has been most apparent in Vietnam and Thailand with the deaths of 22 people. In some countries the disease situation is not clear because of weaknesses in diagnosis, surveillance capacity and variable adherence to obligations for timely and accurate reporting.
- More frequent updates of the disease situation in animals is necessary to allow preventive measures in neighbouring countries and to facilitate emergency preparedness for any necessary animal and public health interventions.
- Reporting of significant animal disease events should be independent of commercial and political considerations.

– *Achievements:*

- Achievements to date have been significant.
- There is evidence that in some countries the massive control efforts undertaken have reduced the overall level of disease. In other countries the disease situation is not clear.
- Countries have taken various disease control measures including culling infected flocks, quarantine and movement control, disinfection of affected premises and emergency vaccination in some countries. However, implementation of these measures should be broadened, strengthened and tailored to individual country situations.
- Contingency plans have been prepared and activated by non-infected countries.
- Efforts have been undertaken to link the activities by the different national ministries such as agriculture, human health, and trade to address this epizootic through a multi-sectoral and comprehensive approach.

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<sup>1</sup> Cambodia, China, Indonesia, Japan, Lao PDR, the Republic of Korea, Thailand and Vietnam

## 2. Recommendations<sup>2</sup>:

- International reporting standards of the OIE is essential to establish confidence on the world stage of veterinary actions and progress toward stated goals.
- Member countries better fulfil their obligations for early and regular disease and epidemiological information notification to the OIE.
- Additionally, the development and use a common daily situation reporting format that can be used for internal planning purposes is critical to continual evaluations of the program. This reporting format should be simple but sufficient to demonstrate progress toward goals.
- There should be an agreed mechanism for the systematic collection and epidemiologic analysis of all animal disease outbreak data, and comprehensive molecular analysis of field virus strains.
- This should be linked to public health surveillance systems.
- The capacity of national animal and public health services for disease surveillance, response, and control and prevention activities should be strengthened.

### **Control Strategies for Highly Pathogenic Avian Influenza (H5N1) in Asia**

#### 1. Conclusions:

The overall goal for response to a Highly Pathogenic Avian Influenza is to detect, control, and eradicate the agent as quickly as possible to return individual farms to normal production and the Country to disease free status. The response target time to accomplish this goal should be four months or less, as response efforts become more difficult to maintain after such a period of time. Avian influenza may impact the abundance, availability, cost, or safety of the Country's food supply, and the ability to market agricultural products. Control and elimination of avian influenza relies on three basic principles which make up the operational components of a response:

- Preventing contact between susceptible animals and HPAI agents is accomplished by the following actions: quarantine and movement controls, biosecurity measures, and epidemiologic investigations with risk assessments, tracing, and surveillance.
- Stopping the production of the agent by the infected animals. This is accomplished using euthanasia and disposal of infected and exposed animals.
- Increasing the disease resistance of susceptible animals. This is accomplished by strategic vaccination.

To accomplish the control of HPAI the following is a summary of the specific recommendations discussed by the participating countries:

#### 2. Recommendations<sup>3</sup>:

##### – *Organisational Approach to the Delivery of Control Strategies*

Throughout the course of the presentations by both infected and non infected countries the need for cooperation across country boundaries was a common theme. For any country's program, be it to

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<sup>2</sup> A recommendation on regional coordination has been prepared. It was included in the recommendations made by the group assessing Regional and International Coordination.

<sup>3</sup> Recommendations on regional coordination and on notification were prepared.

eradicate the disease or to remain free depends upon their neighbour's success. For this reason it is imperative that the following be implemented immediately:

- Establish a Veterinary Task Force in charge of preparing emergency control, contingency, and response plans. These should include amongst others, representatives from other Agencies responsible for the public health sector.
- Each Country will need to assess and further develop adequate capacity within their veterinary infrastructure (human resources, equipment and laboratory supplies to name a few) to accomplish the recommendations contained in this report.
- The development of emergency preparedness programs should be completed to prevent the establishment of infection or reinfection.
- A zoning approach to expand free areas while driving the disease into smaller and smaller pockets is essential for control within the region.
- A regional laboratory network system needs to be established as the closest laboratory may be in a neighbouring country. This would also allow reagent production and sharing as needed.
- Development of common educational materials for biosecurity and public health to be completed and shared with the region for translation and distribution across the region would be essential for biosecurity and containment.

– ***Country Zoning/compartmentalization, Quarantine, Movement Controls and Surveillance***

The primary means of spread is by movement of infected birds, materials or means of transport. While each country has applied quarantine and movement controls in known infected areas, adequate surveillance may not have been conducted in what is thought to be “free” areas. Participants also discussed the need for a coordinated regional approach to eradication.

- Poultry populations should be divided into 3 categories (industrial commercial poultry, small commercial production and village poultry (subsistence farming and pet birds).
- Countries should move to a system of zones based on populations of poultry, geographic areas or disease status with the aim of developing free zones and recovery of export capacity.

– ***Epidemiology***

- Resources should be made available to conduct an epidemiologic assessment by international and local experts to develop a descriptive epidemiologic analysis of the outbreak. This assessment should be conducted on a regional basis (see Group 4 recommendations)
- A molecular analysis of isolates should be conducted with the assistance of the OIE/FAO/WHO Reference Laboratories to complement the epidemiological analysis.
- Support for research on disease transmission among other things to help control the disease in the region.

– ***Strategic Vaccination***

A discussion of the use or non use of vaccine followed a presentation on the advantages and disadvantages of vaccines for avian influenza. The generally acceptable summary of that discussion is that:

- Vaccine is a valuable tool in the control and elimination of avian influenza

- Vaccine alone is unlikely to lead to a successful eradication; however vaccination combined with stamping out and adequate surveillance will likely lead to eradication in less time.
  - Strategic vaccination in birds, if accompanied by appropriate surveillance will reduce the amount of virus excreted and lead to less viral exposure for humans.
  - Vaccines, if used, must be produced in accordance with OIE guidelines.
- ***Stamping-out policy for infected poultry (including Valuation, Disposal, Cleaning and Disinfection, Biosecurity and Animal Welfare)***
- Infected and susceptible animals will be euthanized and disposed of as soon as possible but striving for the recommended time of within 24 hours.
  - Susceptible animals and all suspect premises will be subject to regular inspection and observation over two or more incubation periods of the disease.
  - If resources are limited, premises will be prioritized so that those with high potential for active spread of the agent are acted on before those that do not have a high potential for active spread.
  - Depopulation should be accompanied with adequate and timely compensation payment to owners of animals and materials requiring destruction to prevent the spread of avian influenza.
  - A study should be conducted looking at alternatives to compensation and analyzing the hazards, risks and alternative schemes for compensation.
  - Provide humane euthanasia methods.
  - Contaminated and potentially contaminated materials, including animal carcasses, will be properly disposed of within 24 hours of the destruction of the susceptible animals. Disposal will be done in a manner that does not allow the avian influenza agent to spread, has little to no effect on the environment, and that conserves meat or animal protein if logistically supportable from a biosecurity viewpoint.
  - All premises on which animals are euthanized and disposed of will be required to be cleaned and disinfected.
  - Biosecurity procedures to prevent the spread of avian influenza virus will be implemented within 24 hours of the identification of the first presumptive positive premises

– ***Wildlife Management***

Massive killing of wild birds thought to be pests in the region lead to massive famine and failed crops since the wild birds in fact were controlling crop pests more than being crop pests. Therefore wildlife not only warrant protection due to the aesthetic and cultural values, but also because of the ecosystem “services” provided at very low costs by animals and plants in the environment. As a result:

- Wild birds should not be depopulated in an attempt to control avian influenza but separation, as much as possible should be attempted.
- Contact rates between wild birds and large commercial poultry operations must be reduced to prevent domestic birds and wild waterfowl from reciprocal direct or indirect contacts.
- Village poultry health care programs, including possible vaccination programs and certainly health/husbandry education is to be considered as the best approach to 1) provide entree for surveillance operations, 2) reduce disease incidence, 3) improve rural livelihoods, and 4) reduce the threat or introduction of diseases into wild bird populations.
- Ministries of Agriculture, as well as Ministries of Natural Resources should limit the trafficking of wild birds, and ban the mixing of domestic and wild animals in live markets.

- Wildlife infectious disease surveillance programs, both in semi-urban areas and in remote, rural areas should be put in place to provide insights and early warning about diseases circulating in the wild prior to livestock outbreaks.
- Investment in raising awareness and capacity building has to be increased to allow more countries to begin integrating health monitoring programs as they develop natural resource management efforts.

## **Human Health**

### **1. Conclusions**

- The occurrence of avian influenza in Asia is unprecedented in scope and geographical distribution.
- There is a clear link between the occurrence of highly avian influenza in humans and a history of exposure to poultry infected with highly pathogenic avian influenza.
- Where outbreaks are still present in animals, there remains a risk to public health.
- Since the source of infection is of animal origin, control strategies should be focused on avian species and prevention in other susceptible animals, including humans.
- Continued enhanced surveillance of both animal and human disease and transparency in sharing of information is essential for improved decision making.

### **2. Recommendations**

- Establish a Veterinary Task Force in charge of preparing emergency control, contingency, and response plans. This should include, among others representatives from other Agencies, responsible for the public health sector.
- Preventing infection in individuals at higher risk of exposure (veterinarians, cullers, laboratory workers, health care workers, etc). This should involve provision of personnel protective equipment (PPE), vaccines and antivirals, training, technical guidance, and advisers. Those individuals who, either working in specific diagnostic laboratories or in field control actions may be exposed to high concentrations of virus, should have baseline serum drawn.
- Public awareness programme for avian influenza should focus on health hazards of handling infected or diseased birds (farmers, children), or contaminated equipment and material (egg crates, cartons, bird cages ...).
- Potential public health consequences of selected strategies for the control of HPAI should always be considered. In dealing with a zoonotic infection, the veterinary services should consult with the public health sector when developing animal health country or regional programmes. Accepted tools and procedures used for the control of the disease in animals (e.g., vaccines) should also decrease the risk of exposure of the infection in the human population at large. As new tools (e.g., new vaccines) become available these should be assessed to ensure they do not pose human health risk.
- There is no risk to human health from consumption of wholesome and properly cooked, or processed products, including eggs. Good hygienic practices should always be applied in food preparation.
- Potentially exposed, known infected, or diseased poultry which are culled, should never enter the human or animal food chain, and must be properly disposed of. Eggs produced under systems of potential or known exposure should likewise not enter food chains.

- Samples of animal origin should be sent to the National Reference Veterinary Laboratory for preliminary or primary diagnosis with further dispatch to Reference Laboratories. Reference laboratories of OIE, FAO, and WHO, are recommended to share timely results of their analysis with other laboratories, the world community and most certainly the authorities of the country of origin. Samples of the material and/or isolates should be shared with appropriate laboratories able to handle the agent in question and possessing proper import permits. Veterinary Laboratories should conduct diagnostic procedures according to the OIE *Manual of Standards for Diagnostic Tests and Vaccines for Terrestrial Animals*.
- External communiqués by UN bodies and the OIE, as they relate to zoonotic disease control where concerted action is warranted, should deliver concordant messages.

## **Regional and International Co-ordination, approach to countries**

### **1. Conclusions:**

The necessity to develop the regional and international coordination was highlighted several times during the meeting and they should be developed.

### **2. Recommendations:**

- Asian member countries of the FAO and OIE have outlined their national strategies related to the control of highly pathogenic avian influenza (HPAI). They will take into account the recommendations from FAO-OIE Conferences held in Rome (3-4 February, 2004) and Bangkok (26-28 February, 2004) to prepare their short, medium and long term programmes related to the control of HPAI and other priority epizootics in animals to protect public health and to rebuild their poultry sector where relevant.
- A regional coordination group should be formed by FAO, OIE, WHO and the Central Governments of the Countries in the region to allow joint decision making, resource and information sharing. This group should establish goals and objectives of the regional plan in sufficient detail to guide planning and operations.
- ASEAN and SAARC are the relevant institutions for the coordination of regional policies for animal health, in their member countries under the guidance of the Regional Steering Committee of Global Framework for the Progressive Control of Transboundary Animal Diseases (GF-TADs).
- Member countries and donors will refer to the preliminary FAO-OIE assessment of needs defined during the Bangkok Conference (26-28 February, 2004) as a guide for bilateral and regional arrangements.
- Given the unprecedented nature of the current disease outbreak it is inadequate on a global scale to allow a country by country epidemiologic report. A regional epidemiologic study must be conducted to assist in decision making and planning for the region.
- Emergency preparedness plans must be developed in each country and at regional levels to allow rapid response to new outbreaks of highly contagious diseases.
- Member countries and donors will refer to the OIE Standards as references in the definition of new policies on animal health and zoonoses to be implemented through national and regional programmes for the short, medium and long-terms. These standards include:
  - i) Quality of vaccines,
  - ii) Diagnostic methods,
  - iii) Quality and evaluation of Veterinary Services,

- iv) Humane killing of animal and carcass disposal methods,
  - v) Safety of animals and animal products in regional and international trade,
  - vi) National surveillance and notification procedures of animal diseases to the OIE,
  - vii) Zoning and compartmentalization.
- Member countries and donors will refer to WHO guidelines for all occupational human health and safety.
  - The world-wide FAO-OIE GF-TADs proposal is an appropriate mechanism to ensure harmonization of policies to be implemented to face the avian influenza crisis and other epizootics in Asia. In this context, four Regional TCPs and six National TCPs have already been approved (5.5 million USD). Other emergency donors contributions have also been made available to countries.
  - Member countries and donors consider that the benefits of prevention outweigh the cost of emergency response.

### **Economics, policy and rehabilitation**

#### **1. Conclusions:**

##### – *Economics*

For infected countries, economic losses include lost birds, production downtime, lost trade, losses in associated industries, direct costs of control measures. Some estimates have been made e.g. in Thailand and Vietnam.

##### – *Livelihoods problem*

The poultry sector includes three or more sub-sectors, each affected differently. Concern for smallholder poultry producers was highlighted in the e-conference organised in Rome and at the Bangkok meeting. Small commercial producers are especially vulnerable because of the size of their investment relative to their total income, and their lack of financial security.

##### – *Institutional weakness*

- Lack of information and transparency, lack of “joined up institutional thinking” were raised as concerns.
- Lack of contingency planning. This includes a lack of clear policies on compensation, therefore lack of incentive to report disease.
- In some countries, lack of rapid response capability (to mobilise resources, co-ordinate activities nationally and internationally).
- The need for a review of sector plans for the poultry industry, in light of lessons learned from the AI crisis.

#### **2. Recommendations:**

##### – *Economic losses*

- There is a need for wider and more detailed assessment of the economic losses due to AI.
- To alleviate the economic and social impact of the AI epidemic on the most vulnerable sectors of society, a substantive, well prepared and targeted programme of rehabilitation and assistance needs to be put in place.

- ***Livelihoods problem***
  - There is a need to assess requirements for support in each sub-sector and implications of future directions in the poultry sector.
  - Once the epidemic has been controlled, there will be an immediate need to assist in restocking and rehabilitating poultry flocks for those whose livelihoods depend on them.
  - If the smaller producers are to remain competitive and safe, there will need to be a substantial change in the way poultry are produced and marketed and in the veterinary and public health advice available to this sub sector.
  - In order that small-scale producers are not further marginalized they will need help and advice on ways to improve their practices to comply with higher hygiene and food safety standards.
  
- ***Institutional weakness***
  - Improved communication and information interchange between countries, between national ministries and agencies, with the mass media and with the public to prevent unnecessary stress / panic / damage to markets is necessary.
  - Improved information systems should be put in place, particularly for countries that still have paper based systems and may wish to consider establishing an electronic system
  - Formulation or strengthening of contingency plans for infected and at-risk countries have to be prepared. Plans will need to be targeted to needs of countries and production systems (and may need to take into account seasonal risk)
  - Market for affected countries should be reestablished.
  - Even countries not currently affected with AI should decide where to focus the poultry industry in the future.

#### **Additional recommendation during the final General Session**

The final General Session in its final deliberations recommended that the Chief Veterinary Officer or his/her representative of infected countries and countries at risk meet again in mid-2004 to monitor progress of the implementation of the programme.

## Contents of CD-ROM sent to all participants

### 1. Report of the meeting

### 2. Annexed documents

#### *List of presentations and supporting documents*

#### Day 1 (26<sup>th</sup> February 2004)

##### – Reports and presentations

- Cambodia: *Avian Influenza outbreak in Cambodia*
- China: *The Epidemiology and Control of Highly Pathogenic H5N1 Avian Influenza in China*
- Hong Kong, SAR: *H5N1 Avian Influenza Control Experiences in Hong Kong*
- Indonesia: *Current situation of avian influenza in Indonesia and its control and eradication measures*
- The Republic of Korea: *H5N1 Outbreak in Korea*
- Japan: *Cases of Highly Pathogenic Avian Influenza in Japan, 2004 after 79 year absence*
- Lao PDR: *Situation of Avian Influenza in Lao PDR*
- Pakistan: *Avian Influenza in Pakistan*
- Taiwan province of China: *Current status of Avian Influenza in Taiwan*
- Thailand: *Avian Influenza Outbreak in Thailand*
- Vietnam: *Avian Influenza in Vietnam*

##### – Summary of the presentations

- Cambodia: *Poultry disease situation in Cambodia*
- China: *Epidemiological situation and control strategy of highly pathogenic H5N1 avian influenza in China*
- Japan: *Cases of Highly Pathogenic Avian Influenza in Japan, 2004, after 79 years absence*
- Lao PDR: *Outbreak of Avian Influenza in Lao PDR*
- Pakistan: *Avian Influenza in Pakistan*

#### Day 2 (27<sup>th</sup> February 2004)

##### – Reports and presentations

- Australia: *Country Report*
- Bangladesh: *Status of Avian Influenza (Bird flu) in Bangladesh*
- Bhutan: *Risk Assessment of Avian Flu in Bhutan*
- Brunei Darussalam: *Situation and preventive measures in Brunei Darussalam*
- India (2 presentations): *Part 1: Country Report, Part 2: Status of Avian Influenza in India*
- Malaysia: *H5N1 – Preventive measures taken by Malaysia*
- Myanmar: *Country Report*
- Nepal: *Actions taken for Prevention & Control of Avian Influenza in Nepal*
- New Zealand: *NZ Avian Influenza Situation Report*
- Philippines: *Philippines Emergency Preparedness Program for Avian Influenza*
- Singapore: *Preventive Measures Against Avian Influenza*

- Sri Lanka: *Country Report - Measures Taken to Prevent Entry of Highly Pathogenic Avian Influenza*
- Timor Leste: *Response to avian influenza*
  
- Bernard Vallat (OIE): *International Commitments of Veterinary Services*
- Joseph Anelli (USA): *Summary of Electronic Forum for Control of Avian Influenza in Asia*
- Juan Lubroth (FAO): *Surveillance, Diagnosis, Biosecurity, and Research*
- Karim Ben Jebara (OIE): *Disease Notification to the OIE*
- François Xavier Meslin (WHO): *Public health issues*
- John Galvin (Australia): *Welfare aspects and carcass disposal*
- Véronique Jestin (French Agency for Food Safety (AFSSA)): *Vaccines and Vaccination against Avian Influenza*
- Dewan Sibartie (OIE): *Avian Influenza: Trade, Sanitary and Food Safety Aspects*
- Anni McLeod (FAO): *Framework for socio-economics and policy analysis of Asian Influenza*
- Emmanuelle Guerne Bleich (FAO): *Post Crisis Rehabilitation - What are the options?*
- Nipon Poapongsakorn (Thailand Development Research Institute (TDRI), Thailand): *Economic Impact of Avian Influenza in Thailand*

– **Summary of the presentations**

- Australia: *Country Report*
- Bangladesh: *Status of Avian Influenza (Bird flu) in Bangladesh*
- Brunei Darussalam: *Situation and prevention in Brunei Darussalam*
- India: *Part 1 and Part 2*
- Myanmar: *Avian Influenza Control in Myanmar*
- Nepal: *Measures Undertaken for Prevention of Avian Influenza in Nepal*
- New Zealand: *NZ Avian Influenza Situation Report*
- Sri Lanka: *Country Report – Sri Lanka – Preventive Measures*
  
- Joseph Anelli (USA): *Development of Strategies for the Control of Avian Influenza in Asia*
- Dewan Sibartie (OIE): *Avian Influenza: Trade, Sanitary and Food Safety Aspects*

**Day 3** (28<sup>th</sup> February 2004)

– **Reports and presentations**

- Joseph Domenech (FAO): *The Avian Influenza Crisis in Asia and the FAO/OIE GF-TADs Initiative*
- Hans Wagner (FAO): *FAO Regional Office for Asia and the Pacific*
- Teruhide Fujita (OIE): *OIE Regional Representation for Asia and the Pacific*
- Mary Elizabeth Miranda (WHO): *Regional support of WHO for the veterinary sector*
- Lisa Studdert (Asian Development Bank): *ADB and avian influenza (AI)*

– **Summary of the presentations**

- Murray Gardner (Australia): *Donor Response*

**Supporting documents**

- FAO-OIE: *Halting the spread of avian influenza in Asia and promoting recovery*
- FAO-OIE: *The Global Framework for the Progressive Control of Transboundary Animal Diseases (GF-TADs)*