

Proceedings

Technical Workshop
on Highly Pathogenic Avian Influenza
and Human H5N1 Infection

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ABBREVIATIONS

AHI	avian and human influenza
ALIVE	Partnership for Livestock Development, Poverty Alleviation and Sustainable Growth (Sub-Saharan Africa)
AU-IBAR	African Union – Inter African Bureau for Animal Resources
BSE	bovine spongiform encephalopathy
CAHW	community animal health worker
CMC/AH	FAO/OIE Crisis Management Centre/Animal Health
CVO	Chief Veterinary Officer
ECTAD	Emergency Centre for Transboundary Animal Diseases
FAO	Food and Agriculture Organization of the United Nations
GF-TADs	Global Framework for Transboundary Animal Disease Control
GLEWS	Global Early Warning and Response System (for livestock diseases transmissible to humans)
Hong Kong SAR	Hong Kong Special Autonomous Region
HPAI	highly pathogenic avian influenza
HPAic	HPAI control
IHR	International Health Regulations
Lao PDR	Lao Peoples' Democratic Republic
NEPP	National Emergency Preparedness Plan
NGO	non-governmental organisation
OCHA	Office of Coordination of Humanitarian Affairs of the United Nations
OFFLU	OIE/FAO Network of Expertise on Influenza
OIE	World Organization for Animal Health
PanPrep	Pandemic Preparedness
PDS	participatory disease surveillance
PPE	personal protection equipment
PVS	Performance, Vision and Strategy
SARS	sudden acute respiratory syndrome
TADs	transboundary animal diseases
UNDP	United Nations Development Programme
UNICEF	United Nations Children's Fund
UNSIC	United Nations System Influenza Coordinator
WB	World Bank
WFP	World Food Programme
WHO	World Health Organization

INTRODUCTION

At the International Ministerial Conference on Avian and Pandemic Influenza held in Bamako, Mali, in December 2006, it was agreed to hold a technical meeting prior to the next Ministerial Conference in New Delhi, India, in December 2007. As a result, FAO, OIE and WHO, in collaboration with UNICEF and UNSIC, organised the Rome Technical Workshop on Highly Pathogenic Avian Influenza Human H5N1 Infection from 27 to 29 June 2007 in Rome, Italy.

Participants offered a summary of the current global epidemiologic situation of HPAI in poultry, and of human infection with the H5N1 virus; they also presented assessments of the current risk of an influenza pandemic, the state of preparedness of countries, and current strategies and practices as they have been applied over the last three years for the control and prevention of HPAI in poultry, including reduction of the associated risk of human infection.

OBJECTIVES

The objectives of this technical workshop were designed to address key questions facing international and national decision-makers dealing with animal disease prevention, detection and control, the prevention of human infection, and pandemic preparedness:

1. Review the best available scientific, technical and operational evidence on the nature of HPAI and H5N1 infection in humans, its prevention and control, and provide an authoritative assessment of risk.
2. Provide strategic guidance to partners on technical and policy options for cost-effective and cost-efficient measures for effective prevention and control of highly pathogenic avian influenza in poultry and associated human infections.
3. Identify the current state of pandemic influenza preparedness in the context of H5N1 human infections.
4. Identify and build consensus on geographical and thematic priorities and key constraints to be overcome – in the immediate, medium and long term – to effectively address highly pathogenic avian influenza in poultry and associated human infection.

SESSION 1: WELCOME AND INTRODUCTION

FAO's Deputy Director-General David Harcharik, WHO's Assistant Director General David Heymann, the President of OIE's Terrestrial Animal Health Standards Commission Alex Thiermann, and the UN System Influenza Coordinator (UNSIC) David Nabarro (who also spoke on behalf of UNICEF) gave welcome addresses and opened the meeting. They all emphasised the importance of strategies for prevention, detection and containment of H5N1 in poultry, in addition to the prevention of human infections as well as preparedness for a potential pandemic.

David Harcharik also stressed that since the H5N1 virus will persist where major risk factors are present, institutional global commitment and partnership must continue to assist countries in improving the capacity of their veterinary services, support global approaches to reporting and information sharing, and improve biosecurity of poultry production thereby reducing the risk of disease transmission through poultry marketing. These are all needs that will not be addressed by short-term intervention alone.

One of the key messages that has to be impressed on governments and donors is that while situations continue in which we must apply emergency measures, such as in newly-infected countries, global control of HPAI will not succeed unless we are all committed to applying long-term approaches to the strengthening of veterinary services and assisting poultry industries to reduce the risks of infection. The world is changing rapidly with greatly increased international movement of people and goods, and these global changes will produce both predicted and unexpected outcomes. We have already experienced the emergence of new livestock and human diseases in recent decades, and we must accept that this will continue. We would therefore be wise to broaden our vision in order to anticipate the need to develop and strengthen national, regional and global systems to address not only the current avian influenza, but the likely emergence or evolution of other diseases that will threaten livestock populations and human communities across the globe.

In addition, the welcome addresses stressed the importance of communication strategies and effective institutional mechanisms for collaboration, financial investment in HPAI control and the need for future commitment by donor agencies as a key element in continuing and strengthening the efforts undertaken so far by the international community.

Following a brief introduction to the meeting programme (see *Agenda* in *Annex 1*) and an overview of expectations, the meeting was officially opened.

SESSION 2: TOWARDS A RISK ASSESSMENT

2.1 An assessment of H5N1 – situation, trends and insights

(Presentations by Antonio Petrini, OIE; Joseph Domenech, FAO; Keiji Fukuda, WHO)

OIE presented an overview of the global situation regarding HPAI outbreaks in poultry, based on official reports highlighting many countries that have eradicated the virus more than once and previously affected countries which are now better prepared for early detection and rapid response to new outbreaks.

FAO provided information on trends and dynamics of HPAI, and its epidemiological and animal health risks. The virus continues to evolve, with control of the disease hampered by high-risk production systems. Improvement of epidemio-surveillance and early response capabilities remain a priority, together with the strengthening of veterinary services (including laboratories) and modifications to high-risk practices.

WHO focused on HPAI risks to human health. Disease incidence appears low when compared to the level of potential exposure but the risk of contracting zoonotic infection from infected birds still remains. Additionally, the emergence of a human pandemic strain of H5N1 (or of another virus of pandemic potential) remains a continuous threat to human health

Highlights (Session 2.1)

- a. Most recently-infected countries have been better prepared in responding to control of the disease
- b. Where the incidence of HPAI outbreaks in poultry has decreased, the occurrence of human infections also appears to have decreased
- c. Conventional tools for controlling HPAI outbreaks have been demonstrated to work when applied appropriately
- d. Global eradication of H5N1 HPAI will not occur in the medium term in certain affected poultry production systems
- e. Non-clinical human cases (H5N1 seroconversion without clinical manifestations) appear to be rare, based on a small number of studies

Follow-up (Session 2.1)

- Further investigate the source of new outbreaks and reasons for recurrence/entrenched infection to (a) better understand the epidemiology of the virus, (b) improve measures and their implementation to control the virus, (c) discuss and determine strategies to take in the short, medium and long term, and (d) advise countries accordingly
- Further investigate the epidemiology of and risk factors for zoonotic infections in humans
- Improve veterinary curricula enhancing epidemiology as a science and improve the quality of veterinary services to ensure compliance with OIE standards
- Strengthen relationships with countries and regions to support their capacity

SESSION 3: ASSESSMENT OF EFFORTS OVER THE LAST THREE YEARS

3.1 Achievements and lessons learnt - Experiences of case-study countries

3.1 a Focus on animal health

(Presentations by Hamed Samaha, Egypt; Junaidu A. Maina, Nigeria; Elly Sawitri Siregar, Indonesia; Huang Baoxu, China; Jeff Gilbert, FAO. on behalf of Hoang Van Nam, Viet Nam)

Session 3.1 (a) concentrated on an analysis of the last three years regarding risk and institutional settings provided by the CVOs, or their representatives, from Egypt, Nigeria, Indonesia, China, and Vietnam. These countries have experienced multiple cases, widely dispersed, of avian influenza in poultry and/or humans over the past 2 to 3 years. They all have large poultry populations with marked increases in poultry numbers over the past 10 years. This expansion has resulted in a mixture of intensive/extensive poultry farms with the sale of many poultry including broilers through poorly regulated live poultry markets. All but Nigeria have large populations of domestic ducks, with some 75% of the world's ducks in China and Viet Nam. Comprehensive presentations from these country representatives provided an opportunity for participants in the meeting to better understand the local situations on HPAI and what has been achieved through control and prevention strategies implemented including lessons learnt.

Highlights (Session 3.1 a)

- a) Different strategies adopted by the five countries, demonstrate that a single strategy appropriate for control and prevention of this disease in all places does not exist
- b) The need to enhance veterinary capacity was a recurring theme in all presentations as was the need for enhanced legislation in assisting the control of the disease and the capacity to enforce this; interaction with and regulation of the large commercial sector are generally weak;
- c) Viet Nam and China have both adopted large-scale vaccination programmes to reduce levels of infection and disease; there is a defined exit strategy but no indication that vaccination can be stopped in the short term; both countries are carrying out surveillance programmes to monitor the response to vaccination and the detection of viruses
- d) Both Viet Nam and China are in the process of changing the way poultry is marketed and China is improving market hygiene in many areas; both countries have multi-layered veterinary services and although some improvements are apparent from communication capacities, this is still an area that warrants additional attention
- e) Egypt and Indonesia are also using vaccination but both countries have encountered difficulties in conducting effective national programmes due, in part, to the size of the smallholder population
- f) Vaccination carried out appropriately, together with stamping out and other measures, appear to have been effective in reducing the viral load
- g) Indonesia has introduced participatory approaches for case detection but this has not yet resulted in noticeable changes in incidence of infection and disease
- h) Egypt and Nigeria are the two worst-affected African nations, with the latter still reporting human cases; social and economic factors as well as political interference still limit the applicability and implementation of control measures; at times, vested interests can interfere with veterinary decisions, such as those relating to market management and closures
- i) Provincial autonomy was highlighted as a constraint to disease control in a number of countries but appears to be a particular issue in Indonesia
- j) Long-term investment in veterinary services and addressing high-risk production and

marketing practices are required if sustained gains in reducing levels of infection are to be achieved

- k) The introduction of *participatory disease surveillance* by governments makes it possible to get a better picture of the avian influenza situation for reporting outbreaks, as shown in Indonesia, but has not had any apparent effect on levels of the disease
- l) Local government has an important role to play in improving border control in those countries that have many points of entry and few quarantine points to control poultry movement (e.g. Indonesia)
- m) Legislation and regulations cannot be implemented without the full cooperation of local government and the empowerment of veterinary services to enforce these regulations

Follow-up (Session 3.1 a)

- Enhance the capacity of national departments of animal health epidemiology
- Strengthen research capacity to address knowledge gaps and upgrade laboratories and diagnostic capacities
- Improve information systems/communication in a culturally appropriate manner and develop inter-ministerial communication strategies involving the media and the public to keep people informed
- Review country and regional legislation and regulations ensuring full cooperation from local government and farmers' representatives
- Ensure a clear chain of command and improve procedures for diseases reporting nationally
- Undertake periodic strategy review
- Improve tracing to map disease evolution and improve outbreak response
- Reduce risk factors by improving the biosecurity of poultry production and managing poultry marketing chains
- Systematically engage communities (e.g. community animal health workers and farmers' representatives)
- Improve international border security
- Vaccination campaign funding will be needed for some time to come
- Need for long-term political and financial commitment

3.1 b Focus on human health

(Presentation by Paul Gully, WHO)

WHO presented examples of regional perspectives on human H5N1 infections and pandemic preparedness. In the WHO Western Pacific Region, the emphasis has been on cross-sectoral involvement at the central level and in the construction of national plans. In the Southeast Asia and Eastern Mediterranean regions, missions have been conducted to evaluate the capacity of high-risk member states to respond to H5N1 outbreaks and provide support to laboratories for diagnosing H5N1. Training curricula and teaching materials on pandemic preparedness and response have been developed and piloted in the Russian Federation. A protocol for rapid response and containment has been developed centrally and training is being initiated in several regions. National pandemic preparedness assessments have been completed in the Europe region.

Highlights (Session 3.1 b)

- a. H5N1 is a zoonotic disease that requires collaborative efforts from both animal and human health sectors
- b. Excluding the Americas, all WHO regions have been affected by H5N1 to date
- c. Certain countries have extensive and detailed preparedness plans which may not

extend to the local level; there is great capacity for response, not including antivirals and vaccines that are useful for generic emergency situations; member countries, including those of higher income, have gaps in their national plans

- d. In developing countries, tools need to be tailored to local situations; for example, social distancing and other community mitigation strategies do not need advanced technology
- e. Though some improvements have been made, surveillance and diagnostic capacity are still weak
- f. Investment and preparedness is required not just for H5N1 but also for other zoonotic and transboundary diseases and for other health emergencies

Follow-up (Session 3.1 b)

- Define the role of NGOs and non-health sectors and involve them in pandemic preparedness, including non-pharmaceutical interventions
- Focus the scope of pandemic preparedness on local governments and local health systems; however, support provided by central government to lower administration levels is very important, particularly for federal systems and highly decentralised countries
- Capacity-building needs to continue

Common highlights – animal and human health (Sessions 3.1 a and 3.1 b)

- a. Collaboration and coordination have improved at regional and global level but remain weak at the country level, especially for operational interventions
- b. Multinationals from the private sector with operations in developing countries recognise the importance of controlling H5N1 virus in poultry and preparing for a pandemic, and are willing to participate
- c. Public/private partnerships are important for the control of HPAI; with public sector in the lead, partnerships should be developed with the private business sector in affected countries; awareness should be raised on the impact H5N1 is already having and on what a pandemic would have on the business sector at large
- d. Pandemic simulations suggest that 80 percent of the absolute economic impact will be in OECD countries
- e. The issues related to compensation of farmers/owners for their losses needs to be stressed more in depth and in a broader sense
- f. Successful examples of chain of command in decentralised governments and inter-agency/inter-ministerial work on other zoonotic diseases should be considered for replication in HPAI intervention systems
- g. Stockpiling of antivirals needs to be explored at regional/global level for greater effectiveness and cost efficiency

3.2 Achievements, issues and options in strategies for HPAI control and prevention

(Presentations by Christianne Bruschke, OIE; Les Sims, independent expert/FAO; Anni McLeod, FAO; Olaf Thieme, FAO; Basil Rodrigues (presented by Ketan Chitnis), UNICEF; Satya Sarkar, FAO)

OIE provided an update on the implementation of FAO/OIE prevention measures, showing that certain countries which have been able to implement these key control measures have also been able to prevent establishment of the disease, whereas delayed response may lead to an endemic situation. However, national veterinary services and local laboratories in many affected countries remain weak in their capacity to respond promptly to the disease. In addition, many countries do not have a clear national chain of command and appropriate legislation.

These considerations were confirmed by the presentation on outbreak control responses, provided by FAO, which focused on the need for a modified approach to disease control in countries with entrenched infection, shifting from an emergency response to a longer-term response in which high-risk production and marketing practices are identified and either modified or otherwise mitigated. The main achievements in past years have been the elimination of avian influenza viruses from poultry in many countries, reductions in the prevalence of infection in most other countries in which the viruses have been found, recognition that these viruses will probably not be eliminated from all countries in the medium term and a shift from an emergency response to a longer-term response in countries with entrenched infection.

From a socio-economic perspective, several issues affect the livelihoods and welfare of people and their economies. Among these, market shocks may occur during and even before outbreaks. Disease intelligence information systems, well-designed compensation schemes, preventive vaccination and other strategic interventions can minimise economic and livelihood damage. The HPAI crisis has shown that in many countries the biosecurity of production systems and market hygiene are not sufficient to prevent spread of the disease and major losses from disease outbreaks and control measures. There is a need to train small producers on good husbandry practices not only on the protection of humans from HPAI. In this context, a robust communication strategy can play a key role to support prevention and control of H5N1 HPAI.

Highlights (Session 3.2)

- a. There is a need to assess high-risk practices in countries with entrenched infection to see what can be done to control infection and break the infection cycle (i.e. shift from an emergency response to a longer-term approach)
- b. Market shock as a result of consumer rejection of poultry products in the event of HPAI outbreaks has had a major economic impact; there is a need to expand consideration of support measures for farmers whose poultry are compulsorily culled to a broader evaluation of needs and mechanisms for preventing market shock and for support and rehabilitation of all participants in the poultry industry whose livelihoods are affected by HPAI
- c. In planning HPAI control measures, active participation from farmers and traders is important because technically preferred solutions may not be implementable or may require substantial community support
- d. There is competition for resources between endemically-infected countries and non-infected countries; there is a need to prioritise resource allocation, both for strengthening the capacity of veterinary services to control the disease and for fighting the disease in the short term
- e. There is a need to carry out more research on poultry vaccination, in particular on vaccine "delivery" systems that are more acceptable to farmers
- f. To date, communication efforts have largely focused on avoiding human exposure and preparedness for pandemic human influenza; there is a need to focus more on a communication strategy to reduce high-risk practices that enable transmission of the disease among poultry

- g. It is unlikely that veterinary vaccine production units could be used for human influenza vaccine production, because the latter requires additional purification procedures

Follow-up (Session 3.2)

- Implement FAO/OIE prevention measures and develop disease management plans with endemically-infected countries
- Focus technical assistance on countries with entrenched HPAI and preparedness activities in countries at high risk of introduction and establishment of HPAI, including cross-border strategies
- Identify high-risk production and marketing practices and determine if and how these can be changed or otherwise modified to reduce the risk posed
- Consider strategies that can reduce the extent of culling around outbreaks
- Strengthen and empower veterinary services and provide funding and personnel to countries unable to mobilise resources
- Involve local communities of livestock producers that need access to resources to improve biosecurity of poultry production
- Develop advocacy efforts to ensure national government communication strategies and capacity through establishment of national communication taskforces and networks of animal health experts; integrate communication into veterinary structure and policy response; eliminate the division between animal and human health communication – preventing the disease at source is the best chance of preventing pandemic
- Invest in applied research activities

3.3 Issues and options for implementation of strategies for HPAI control and prevention

(Presentations by Paul Gully, WHO; William Paton, UNSIC/PIC; Peter Scott-Bowden, WFP)

WHO highlighted the possibility of an influenza pandemic being a threat to global health security. Pandemic preparedness should be seen within the context of generic national emergency planning response. Significant work has been done to develop key non-pharmaceutical interventions that could be used by the general public to help limit the spread and impact of a pandemic, and for this to be effective the population should be engaged.

In particular, as confirmed by the joint presentation given by UNSIC/WFP, local communities should be equipped to undertake humanitarian action themselves because of limitations on inter-country transportation. The private non-health sectors (e.g. finance, utility infrastructure) must be included in this planning. The UN system works with national bodies to contribute to the continuity of essential services and work has begun on simulating the challenges they will face in ensuring access to food, water and other basic needs.

Highlights (Session 3.3)

- a. National/inter-country readiness capacity to contain a human influenza pandemic can improve through rapid containment programme planning, including training trainers; until these programmes are implemented, the ability of countries to achieve rapid containment of a pandemic will remain limited
- b. Services such as transportation are essential for pandemic preparedness, particularly for food; variations can apply depending on availability of public or private transport and the time/season in which the pandemic would occur
- c. About one-third of the over 130 preparedness plans submitted by United Nations country teams could serve as a ready basis for UN system pandemic preparedness arrangements; these plans can be implemented by putting in place systems which include strong support to other countries, many of which have on-going humanitarian crises

Follow-up (Session 3.3)

- Ensure that all countries have implementable preparedness plans integrated with existing disaster management plans
- Advocacy for equity in the availability of antivirals and vaccines to respond to a pandemic
- Distribution of simple tools to maximise community mitigation and control measures

3.4 Assessment of institutional strengthening and support at national and regional level

(Presentations by Alex Thiermann, OIE; Rob de Rooij, FAO; Gardner Murray, OIE; Joseph Domenech, FAO; David Nabarro, UNSIC)

OIE has designed the Performance, Vision and Strategy (PVS) tool assist veterinary services in establishing their current level of performance and to identify gaps and weaknesses regarding their ability to comply with OIE international standards. PVS promotes a culture of raising awareness and improvement in veterinary services, including partnership initiatives between the public and the private sectors. So far, 30 out of a planned 105 countries have been evaluated, reports are being finalised and the resulting gap analyses will be used to prioritise assistance and investments. In the debate on the roles of the public and private sectors in addressing animal health issues, emphasis was placed on the need to go beyond public veterinary services and incorporate private animal health services in order to strengthen national animal health systems.

The joint OIE/FAO presentation provided an overview of the institutional, regional and global technical support for HPAI prevention, detection and control and presented the mechanisms that have been put in place in the past three years (i.e. GF-TADs, ECTAD, GLEWS, various networks such as OFFLU, regional network of laboratories, epidemio-surveillance teams and other global collaborative initiatives such as the design of the Global Strategy for Prevention and Control of H5N1 HPAI and others, UNSIC, etc.). Continuous improvement is essential to meet the challenges not only of H5N1 but of other diseases which may emerge.

UNSIC's presentation emphasized several intergovernmental initiatives in support of national and other stakeholders for integrated action to tackle HPAI and to prepare for the next influenza pandemic.

Highlights (Session 3.4)

- a. Lack of legislation, human and financial resources and technical capability are severe constraints for national veterinary services and emerging diseases prevention and control
- b. Need to focus on a long-term systematic approach, including training for veterinary services
- c. The global and regional initiatives that have been established require continuous support to ensure their sustainability and improve their effectiveness
- d. National governments should promote joint public health/animal health disease prevention and hygiene training at the human-animal interface;
- e. Need to establish formal mechanisms for inter-sectoral interaction including information sharing, epidemiological and surveillance data (GLEWS), and technical knowledge exchange

Follow-up (Session 3.4)

- Need for support to strengthen veterinary services, including evaluation of good governance and administration
- Consider the benefits of strengthening synergistic roles with private industry (including farmers' representatives) to increase the effectiveness of national animal health systems
- Establish inter-sectoral mechanisms engaging in communication/media advocacy and disease awareness

SESSION 4: STRENGTHENING GLOBAL STRATEGIES – IDENTIFYING PRIORITIES AND WAYS FORWARD

Participants were divided into six working groups comprising members of the partner organisations, country CVOs, experts and donor representatives. Each working group was guided in discussions by a facilitator and the outcomes from discussions were noted by rapporteurs. Their summary reports are outlined below.

Working Group 1

Detection and emergency responses in an epizootic situation (mainly animal health)

(Rapporteur: Suzanne Munstermann, FAO)

HIGHLIGHTS

National emergency planning

At country level

- Countries should integrate HPAI emergency and eradication plans into legal frameworks of national disaster plans and establish National Animal Disease Emergency Committees
- National (integrated) strategic plans for HPAI need to identify *emergency preparedness planning (realistic action planning)* as a specific issue to be addressed; a realistic action plan should be part of this strategic plan
- In support of this process, national human capacity in epidemiology (at curriculum level) should be enhanced
- An energetic communication programme is required to prepare the population for disease control activities which might become necessary

At international level

- Ensure sustainable technical and financial support to the process and implementation of National Emergency Preparedness Plan (NEPP) reporting
- Each country should have a clear national chain of command and clear notification guidelines to report any outbreak to national authorities and the OIE (notifiable disease)

Detection

- In view of the limited capacity of veterinary services and/or communication facilities, alternative systems should be explored beyond normal government systems to detect and report the disease (e.g. Thailand village volunteer system, PDS system)
- Countries should define high-risk practices and areas and apply surveillance in high-risk places such as markets
- Countries should step up and implement surveillance systems
- Incentives for continued reporting of data collection should be present
- Key role played by reference laboratories in confirmatory diagnosis; certain regions need to strengthen reference laboratory capacity (through OFFLU, OIE twinning concept and direct FAO support)
- Use and strengthen existing laboratory networks (e.g. OFFLU)

Emergency response

- First goal is to prevent secondary spread after primary introduction; rapid culling of infected and in contact animals is necessary, including compensation for owners
- Sufficient resources required for compensation should be ensured through sustainable funding mechanism (e.g. permanent national or international funds, insurance [as in Iran], taxation)

- Training of people who are dealing with stamping out (OIE welfare guidelines)
- Emergency vaccination can be an additional tool in epidemic situations and there is a need for the development of a decision support system enabling countries to decide in advance on the timeframe for switching from culling as the main response activity to the inclusion of emergency vaccination with complementary destruction/disposal of infected and in-contact animals
- The decision should be based on a situation analysis (done in advance, not during the process)
- Vaccination – high quality vaccines should be used, international standards met, and this should always be combined with classical control methods and monitoring programmes

Conclusions and key responses to working group presentation

- Enhance national capacity for decision-making
- In an epizootic situation (mainly animal health), the strength of the veterinary services and national level of early warning/early response are key
- NEPPs are necessary to secure the proper institutional and legal framework for early disease detection and response, complete with transparent disease reporting, pro-active surveillance and laboratory support
- In order to enhance surveillance, early detection and early response, village volunteer systems and other forms of community participation are needed
- Early response requires analysis in advance, including the design of vaccination schemes

Working Group 2

Containment and elimination in enzootic situations

(mainly animal health)

(Rapporteur: Alex Thiermann, OIE)

HIGHLIGHTS

Advocacy and strategy

- Sustained political commitment from the highest level of government, reflected in appropriate resource allocation, is essential for successful HPAI control
- National strategies for enzootic HPAI control should have objectives, milestones and performance indicators, so that progress can be evaluated; this is both an essential component of progressive strategy development and an advocacy tool
- There is a need to engage poultry producers, at all levels, and other stakeholders in the poultry industry in the early stages of developing HPAI control strategies for them to have broad support
- There is a need to develop, through public-private dialogue, effective combinations of financial and other incentives/disincentives, to ensure the success of HPAI containment and elimination in enzootic situations

Epidemiology and surveillance

- Sustained progress on enzootic HPAI control is dependent on improved understanding of the specific epidemiology of the disease in a particular situation
- Community-based surveillance for disease detection and active surveillance for specific purposes, including monitoring of virus circulation in vaccinated flocks, are essential requirements for control interventions; disincentive for community reporting of disease needs to be addressed

Laboratories

- National laboratories in enzootic countries must be able to undertake certain key quality assured services, including disease diagnosis, serology in support of monitoring vaccination response and virus isolation; for more specialised needs, such as virus characterisation and assessment of vaccine efficacy, the service may be best provided through international or regional reference laboratories

Vaccination

- Vaccination should be directed with a particular objective, which may be to control individual outbreaks, include reduction of virus load or protect poultry produced under conditions of low biosecurity
- All vaccination programmes should contain an exit strategy since long-term mass vaccination programmes are not sustainable
- Where appropriate, vaccination could be undertaken by private or community personnel under regulatory supervision and monitoring, following an established strategy
- Continuous monitoring of field viruses in vaccinated and unvaccinated populations is essential to ensure that current vaccines protect against current field strains of the HPAI virus
- There is an urgent need to undertake research to develop delivery systems that make vaccination more feasible, acceptable to producers and improve coverage
- Research is required to understand the implication of vaccine efficacy and of divergence between homologous (vaccine antigen) and heterologous (field strains) serological responses
- The Verona recommendations on vaccination are also valid for the outcome of this meeting

Culling

- There are situations in enzootic areas where it is valid to consider alternatives to culling all

poultry in the defined area surrounding the outbreaks, because the capacity to cull effectively is not available and/or it alienates the community resulting in a counter productive measure. Infected animals in outbreaks should be culled

Movement and market management

- There is a need for greater involvement of veterinary regulatory authorities in enforcing basic standards for market practices to prevent transmission of disease through the markets
- There is a need for considering procedures, facilities and personnel, including law enforcement and communication, when controlling movements related to markets or within production systems

Conclusions and key responses to working group presentation

- Strengthen dialogue with all stakeholders to fine-tune approaches, draw on updated information and achieve technically and socially balanced action
- There are no one-size-fits-all methods, so programmes require continual adjustment
- Community-based surveillance may support public services responsible for overall disease management
- At the international level, there are options for inter-country collaborations such as twinning of laboratories, information sharing, cross-border discussions and control strategies, and procurement of international technical assistance in areas where it is unavailable
- There is a need to monitor vaccination and to improve vaccines and vaccine delivery systems
- Undertake research to establish better indicators for vaccine efficacy
- Optimise culling practices
- Enzootic situations require a progressive control approach

Working Group 3

Restructuring and its consequences

(mainly animal health)

(Rapporteur: Jim Hancock, FAO)

HIGHLIGHTS

What are restructuring and structural change?

- Newest major issue in HPAI control and prevention, and therefore we have few examples to build on; perhaps the issue needs rewording – “*poultry industry adjustment*”, where:
 - *Structural change* of the sector is market-driven change and
 - *Restructuring* is a policy-driven change
- Restructuring covers both production systems and markets; it is an imposition on how people do business; what we can restructure – shape of the market, farms and their bio-security, supply chain, consumer influence
- Must be part of the broader risk identification and mitigation process (which includes a number of actors, regulations, market forces)

Why, and if, to restructure?

- Principally it is done to minimise serious and international animal health and public health risks
- This means firstly to go ahead with adjustment measures; ***it is fundamental to understand/judge the real risk - to be done by understanding of the disease and infection (research on carriers, wild birds, markets) – and key risk points***
- In practice interventions have been done because of pressure from residents, media and due to human cases (as part of the global concern). Other important supporting reason is to mitigate risks arising from market driven structural change
- Analysis of restructuring options, including whether to go ahead with adjustment at all, may need to take into account:
 - Analysis of relative cost-benefits compared to other control and prevention mechanisms;
 - A focus on the greater good as well - who is at risk;
 - Understanding risk perceptions - and one may have to factor in different risk tolerances;
 - How restructuring can be put in the context of other options;
 - Political motivations/trade-offs;
 - A range of socio-economic issues: gender, poverty, etc.;
 - Avoiding social disruption due to forced change in the production/market structure, to help the industry adapt to the proposed new situation.

How – what are the realistic most effective approaches, process and options?

- Where possible begin restructuring system based on a market driven approach by working with consumers and producers incentives (i.e. markets)
- **Start with risk prioritisation and strategy**
 - Need to identify road map, and identify entry points based on specific avian influenza situation
 - Consider combining with other options: e.g. balance biosecurity with vaccination
 - Mitigating biosecurity issues while phasing-in restructuring (e.g. vaccination)
 - All of these will affect timing
- **Timing – does not have to be drastic** (check how “restructuring” translates into other languages as it has often associations of big change)
 - Can range from slow to fast process – but slow is by far the most realistic; producers cannot change their systems fast

- Strongly advised to do it before the crisis (should be strong advice), though in practice it is not done
- Many other contextual concerns need to be factored in (e.g. in Vietnam: industry, other products, land allocation, etc.), which will slow things down; also need to consider trade impact of restructuring in countries with endemic disease
- Rapid restructuring could be done in very exceptional cases such as in the situation of a potential catastrophe (e.g. Hong Kong in 1997)
- **Build in monitoring process to assess whether risks are actually being reduced** (this will be very important to keep the stakeholders supportive)
 - Needs an iterative public-private negotiation process, with government facilitating stakeholders and consumers, and working within their constraints
 - This would strongly contribute to lower market and social disruption, and make implementation realistic through phase-in by risk priority
 - Look for good examples for good negotiation process outside animal health – e.g. from public health
- **Consider a number of different options and implementation**
 - Consider broad approaches
 - Move things, or change things, or stop activities
 - Work at both ends of the value chain
 - Examine range of interventions to suit risks
 - Examine a range of restructuring tools in detail
 - Compartmentalizing; changes in existing industry structures – sheds; include small restructuring measures (examples of certification of live markets in the United States); market changes (location, slaughter houses); spacing between farms; legislation – certification to ship birds to market; strengthen biosecurity with incentives which matter most – carrot (market access) and stick (permission to access)
- **Ensure practicality of restructuring scheme**
 - Rationalize, prioritise and adjust, taking into account cultural dependence and economic factors – for example, comparing the different strategies of countries such as Turkey, Kuwait, Egypt, Saudi Arabia
- **Prepare and deal with consequences by analysing who will gain and who will lose** (which will differ in different places and is important for two reasons)
 - (1) livelihoods – who will be the most vulnerable
 - (2) people behave in different ways to restructuring measures, some of which will be very negative
- In all likelihood and by definition, **Sector 3** (commercial with poor biosecurity) will take a large part of the “fall out” of restructuring; some will have to upgrade, and some will need a safety net as they have no way to upgrade; this sector needs to be disaggregated as it can contain production farms from anywhere between 20 to thousands of poultry
- Urban and peri-urban **Sector 4** is a very difficult to deal with; firstly we need to assess how risky they really are (are they the victims of, or do they maintain the virus?); options to deal with this sector include:
 - Elimination in certain areas, at certain times?
 - Vaccinate neighbouring commercial farms?
 - Training and education of keepers with repeat communication on public health issues – e.g. hygiene
- **Provide analytical tools supportive of decision-making for identifying best options**
 - Feasibility of implementing restructuring process (include cost-effectiveness of alternatives)
 - Analysis of what is happening now – regulations, market forces
 - Risk assessment and hazard analysis
 - Conducting market chain analysis
 - Tools for implementing risk communication

- Options analysis of good/best/bad practices – possible examples of good practices to analyse: Hong Kong, Viet Nam (the World Bank-funded market pilot), Philippines Marikina market
- Information on alternative options and experiences on these; strengthen communication strategy and capacity to support restructuring
- **Strengthen particular communication strategies**
 - Communication around negotiation with different priority groups
 - Communication with consumers about potential restructuring and its reasons and consequences; including bottom-up thinking into restructuring policies
 - Risk communication on an on-going basis
 - Mobilizing media for responsible reporting
- **Capacity-building through training/education**
 - The restructuring process will have to be accompanied by appropriate training and education of the veterinary service sector, which must also be able to follow and support changes in sector needs; focus must also be on leadership

Conclusions and key responses to working group presentation

- “Restructuring” is a term to be applied with caution; in many instances the word “adjustment” may be more appropriate
- The term “restructuring” should be risk-based, gradually introduced and regarded as a complementary measure in the control-prevention-adjustment continuum, aimed at long-term sustainability
- Options are with adjustment of biosecurity provided due recognition is given to the socio-economic aspects

Working Group 4

Pandemic preparedness

(mainly human health)

(Rapporteur: Paul Gully, WHO)

HIGHLIGHTS

Issues

- Multi-sectoral, health care, public health and non-health
- Lack of clarity about the pandemic risk
- Perception that a pandemic is not going to happen
- Seriousness of threat is enduring
- Successful avian influenza control may reduce global interest in pandemic preparedness
- Status of global preparedness is insufficient
- Need to prepare at the community level
- Importance of private sector and NGOs
- Countries have varying capabilities
- People do not think it is going to happen
- Status of global preparedness is insufficient
- Preparedness required beyond that needed for a pandemic

Recommendations (as have already been called for)

- Member states need to develop comprehensive plans urgently
- Plans should be explicit about key planning assumptions
- Plans should consider the full spectrum of potential levels of pandemic severity
- Plans should be multi-sectoral; focus on continuity of key sectors
- National plans should support community-based planning and preparedness
- Best practice in local planning should be shared
- National plans should address the role of the private sector in essential services
- Share best practices in national plans
- Focus research on the risk of a pandemic emerging, and the benefits of better preparedness
- Relevant international organisations should promote international collaboration on planning for key sectors, e.g. telecommunications; IMF should continue to support financial sector preparedness
- Widen pandemic preparedness planning to cover emerging infectious disease threats especially zoonoses
- Existing disaster management institutions should include pandemic risk, working alongside professionals in the health and other sectors
- Encourage development of a toolkit for rapid self-assessment in order to develop awareness of the state of preparedness and identify needs for assistance
- Commission global assessment of pandemic preparedness
- Need to promote awareness of continued seriousness of risk
- Articulate collateral benefits of pandemic preparedness
- Appropriate and consistent communication so that individuals and businesses can make well-informed decisions to prepare
- Communicate value of preparedness; preparedness will save millions of lives

Conclusions and key responses to working group presentation

- Pandemic preparedness should move beyond influenza and focus on emerging infectious diseases, especially zoonoses
- Rather than preparing for a pandemic of maximum severity, preparedness should concern the full spectrum, also including scenarios other than worst case;
- There is much merit in establishing a country-by-country global approach with transparent communication of risk, based on a toolkit for rapid self-assessment, sharing of best practices and collaboration in transboundary simulation exercises
- More can and must be done in terms of pandemic preparedness preparation globally

Working Group 5

Collaboration between animal and human health sectors

(Rapporteur: Elizabeth Mumford, WHO)

HIGHLIGHTS

Vision

- Sectors must collaborate for the effective control of influenza and other zoonotic diseases
- Promotion of the "one health" concept could facilitate this collaboration

Recommendation

Stakeholders at all levels should embrace and take ownership of collaborative aspects of the control of this disease

Possible blocks to collaboration

- Different mindsets/objectives (economic vs. individual/public health, but depends on country)
- "Appetites"
 - Political (power, authority, social status)
 - Budgetary
- Tradition/established infrastructure
- Technical standards (vaccine production, diagnostic laboratories)

Common ground

- Common 'health' vocabulary and experience
- Common concerns (variably = public health, safe animal products, animal health and welfare)

Recommendation

All stakeholders should reduce barriers and seek common ground between sectors

Issues

- Mostly applicable at multiple levels
- Some apply more specifically at field, national, regional or international level

Multi-level

- Communications, including WHO's "combi" approach (see http://wmc.who.int/images/stories/pdf/Mobilizing_for_Action.pdf)
- Raising political and public awareness
- Collaborative research
- Involvement of private sector
- Joint standard operating procedures which outline specific roles and responsibilities for case reporting and emergency/follow-up response
- Timely information sharing among stakeholders
- Technical knowledge exchange
- Interaction among public and animal health sectors at country, regional, and international levels
- Balanced resource allocation
- Communication among stakeholders

Field level

- Joint training in areas of synergy (target group/subject will vary by country) in:
 - Disease recognition (at first point of recognition)
 - Disease prevention and hygiene/biosecurity
- Target groups include local/village staff, veterinarians, medical doctors, "industry" (all sectors), poultry-owning public
- Develop "one stop shop" concept
- Early disease recognition/surveillance

- Public/disease awareness

National level

- Legislation/policy development that enables and promotes coordination – should be reflected down through technical guidance/rules/standards (depends on government structure)
- Overlap and exchange of information in medical/veterinary education = "sensitisation"
 - Veterinary aspects included in human medical education
 - More veterinary public health/epidemiology in veterinary education
- Sharing responsibilities in key areas of synergy at each governmental level
- Collection, analysis and interpretation of epidemiological information

Regional level

- Early sharing of regionally-important information;
- Regional discussion of cross-border issues (animal and human movement) jointly;
- AH-PH linkages inside regional agencies;

International level

- Sharing of viruses and sequence information;
- Relationship between OFFLU and WHO CCs;
- GLEWS.

Key recommendations

Joint activities and infrastructure

- Establish joint training programmes in key areas of synergy
- Ensure disease recognition capacity at the first disease detection level (e.g. village chiefs, primary care medical/veterinary staff), and joint implementation of early recognition programmes
- Promote joint disease prevention and hygiene training at the human-animal interface
- Establish joint standard operating procedures which outline specific roles and responsibilities for case reporting and emergency/follow-up response
- Jointly engage in communication/media advocacy activities (including promotion of the WHO "combi" approach:
(see http://wmc.who.int/images/stories/pdf/Mobilizing_for_Action.pdf)
- Implement joint surveillance projects and/or share surveillance data
- Facilitate legislation/policy development that enables and promotes coordination
- Promote synergies between human and veterinary medical curricula
- Establish joint task-oriented bodies (governmental, independent review, etc., as needed and appropriate)
- Ensure a joint regional discussion of cross-border issues and coordinated implementation of measures (e.g. animal and human movement)
- Establish formalised mechanisms for interaction and collaboration among public and animal health sectors at country, regional, and international levels
- Establish linkages between human and animal health sectors within regional organisations
- Improve (or formalise) relationship between OFFLU and WHO CCs/laboratories
- Promote collaborative research to fill knowledge gaps at the human-animal interface
- Ensure balanced resource allocation at every level

Information exchange

- Establish local and regional emergency data exchange mechanisms
- Establish and improve mechanisms for rapid sharing of information, including acceleration of GLEWS network development
- Improve mechanisms for timely sharing of viruses and virus information

- Promote technical knowledge exchange (e.g. among human and animal laboratories)
- Ensure joint analysis and interpretation of epidemiological information

Conclusions and key responses to working group presentation

- There are numerous options for establishing synergy in approach, including information sharing, gathering, analysis, surveillance approaches, use of laboratory and other infrastructure, research and training
- Avoiding duplication and overlap; there are prospects in conceptual terms for a "one health" umbrella, including wildlife and environmental aspects; this approach may conveniently start from existing common ground

Working Group 6

Interagency collaboration mechanisms

(Rapporteur: David Nabarro, UNSIC)

HIGHLIGHTS

Summary of recommendations

National authorities should:

- Define communication as a two way process: “listening to” as well as “talking to”
- Ensure that communication activities are strategic, have clear objectives, are firmly led and are open to innovative bottom-up thinking
- Design mechanisms for communication so that they share genuine multi-disciplinary information in a transparent way
- Establish an inter-ministerial decision-making commission to develop and monitor an integrated action plan that responds to HPAI and other zoonotic diseases and helps prepare for an influenza pandemic
- Establish a multisectoral advisory board to the inter-ministerial commission composed of key stakeholders
- Document the best practices of the national commission system and disseminate them in all UN official languages
- Encourage regional and global-level coordination between donors, as well as regional and international agencies, to address the transboundary nature of highly pathogenic infectious diseases building on positive experiences such as those of ALIVE in Africa.

Detail

1. Communication

Issue

- The efficiency of working jointly is impaired by the (often accidental) non-sharing of time-sensitive information that is of strategic importance.

Lessons learned

- Vital to share more quality information and to do it better;
- Involve people more – disseminate information widely rather than restrict it;
- Communicate outside the usual sector channels;
- Avoid baseless speculation;
- Mix staff from different departments and different professions on operational programmes;
- Establish a cross-government high-level communication group.

Recommendations

Improve working together by:

- Defining communication as a two way process: “listening to” as well as “talking to”
- Ensuring that communication activities have clear objectives, are firmly led and are open to innovative bottom-up thinking
- Designing mechanisms for communication so that they share genuine multi-disciplinary information in a transparent way

2. Inside country inter-agency collaboration

Issue

- Collaboration is a particular challenge in decentralized government systems where the personnel concerned are hard pressed dealing with a range of other matters

Lessons learned

- Use existing collaboration mechanisms where possible
- Develop systems that take account of the challenges of decentralised government, seeking precedents and systems for the centre taking control in a crisis
- Seek incentives to sustain inter-sectoral participation.
- Utilize the services of an inter-ministerial commissioner with vested authorities if a committee is too complex.
- Inter-country mechanisms at the regional level can facilitate national efforts; if they can access technical expertise this adds to their utility.

Recommendations

Improve working together by:

- Ensuring that each country establishes an inter-ministerial decision-making commission to develop and monitor an integrated action plan that responds to HPAI and other zoonotic diseases and helps prepare for an influenza pandemic
- Establishing a multi-sectoral advisory board to the inter-ministerial commission composed by key stakeholders

3. Improved collaboration among international and regional bodies and bilateral donors

Issue

- Donors are increasingly focused on outcomes; international and regional bodies concentrate on supporting national authorities

Lessons learned

- National ownership of in-country action is key: external bodies should be careful not to impose their wishes on national processes
- External bodies will seek information about outcomes and this should be available for them
- National authorities often do not know how to locate funds
- Too much of the policy dialogue in international for a is incomplete or repetitious
- External agency coordination can be improved through the use of coordination templates

Recommendations

Improve working together by:

- Documenting the best practices of the national commission system (see above) and disseminate them in all UN official languages
- Strengthening the regional and global coordination between donors, and regional and international agencies, to address the transboundary nature of highly virulent infectious diseases building on experiences such as those of *ALive* in Africa.

Conclusions and key responses to working group presentation

On communication

- Often, important information does not reach where it should because of oversight rather than neglect
- Mixing of staff, who normally do not work together, may assist in horizontal information spread

On coordination and collaboration

- Coordination should emphasise the horizontal dimension to become inter-sectoral, inter-ministerial and inter-country

- Collaboration mechanisms and approaches should be subjected to quality assurance
- While crisis management requires centralised command in certain aspects, there are indications that, regarding other aspects, a decentralized approach is more sustainable

Closing remarks on the Working Group reports

(Presented by David Nabarro, UNSIC)

There is need for:

- Long-Term Vision and Plan on HPAI control (HPAIC) and Pandemic Preparedness (PanPrep)
- HPAIC and PanPrep Communication Strategy
- Livelihood-based approaches to transforming the poultry sector to reduce risks of ill-health
- Advocacy for One Health (Animal, Human, Environment)

CONCLUSIONS

(as presented by representatives of the organisers)

During the last session, the representatives of the partner organisations presented summaries of their main conclusions.

Joseph Domenech (FAO) presented the following conclusions on behalf of FAO and OIE:

Much has been achieved:

- Many countries have controlled or eradicated the disease
- Around 18 countries have had infections or re-infections over the past eight months but, thanks to improved early detection and response, most of these managed to control/eradicate the disease
- Tools, methods and strategies, as recommended by international organisations, have been demonstrated to work if implemented properly
- No human cases have been detected in places without outbreaks in poultry; prevention of pandemic is possible through diminishing the number of poultry outbreaks
- There is a need to understand better the epidemiology and costs of the disease
- Better coordination is needed between international and regional organisations and donors
- Greater appreciation of communication importance and socio-economic impacts

However:

- The virus is still circulating with outbreaks occurring in new countries, which means there is a need for short-term emergency strategies
- There are still heavily-infected countries (i.e. Indonesia, Egypt) which need to concentrate more investment and commitment on long-term strategies
- More commitment and investments with focus on poultry in endemic countries is needed
- Short, medium and long-term strategies have to be designed
- A strategy on, and more communication, is needed
- Better governance should be developed including a clear chain of command, legislation and compliance with OIE International Standards on Quality of Veterinary Services
- Improved strategies are needed for animal health surveillance through strengthening of laboratory capacity and epidemio-surveillance systems
- Improved public-private partnerships, including delivery systems and biosecurity are needed
- Improved socio-economic and farming systems analyses are needed
- Assess possible scenarios and understand what is and is not feasible
- Assess possible negative effects and prepare mitigation options for vulnerable groups
- Address hygienic conditions in markets in partnership with the private sector; improvement is possible and understanding the methods to be used, including costs (e.g. live market), is needed
- The structure of the sector is market driven; we can influence this in order to avoid problems by taking advantage of improving biosecurity
- Addressing all farming systems is needed: do more research on their respective roles in the epidemiology of the disease and adopt strategies according to the results of research
- Monitoring of viruses circulation and share of strains is indispensable for determining possible genetic changes
- There is a need for research on the role of wild birds, epidemiology, vaccines, socio-economics, communication and vaccination (more conclusions and recommendations on vaccination and vaccines are available from the specific International Conference organized by OIE, FAO and the Padova Reference Laboratory held in Verona, March 2007)
- Coordination and collaboration improvement between countries, regional organisations, international organisations and donors is needed

Further conclusions from **Bernard Vallat (OIE)** supported the common conclusions presented by Dr Domenech and emphasized the threat coming from globalisation and climatic changes, good

governance, strengthening of veterinary services, public goods, sustainability, and institutional mechanisms (e.g. OFFLU, GF-TADs and others) and the relevance of avian influenza control investment for all future emerging diseases.

Paul Gully (WHO) added that:

- HPAI infections in poultry are of public health significance because of socio-economic and food security consequences
- Support for control of HPAI in poultry must be strengthened for these reasons in addition to reducing the risk of human H5N1 infections which, although rare, have a very high case fatality rate
- Strengthening capacity in surveillance, detection, identification and response to H5N1 infection in animal and humans must be sustainable so that there is long-term benefit for the prevention and control of other emerging zoonoses
- The risk of a pandemic of influenza remains the same but preparedness must continue whatever the evolution of the threat of H5N1 infection in animals and humans
- Pandemic preparedness must be comprehensive at all levels of government and be multisectoral
- Strengthening preparedness for a pandemic of influenza will benefit, and must be integrated as far as possible with, other emergency preparedness plans, especially at the local level

DRAFT RECOMMENDATIONS

(as discussed with participants)

(Presented by Les Sims, independent expert/FAO)

Following the conclusions of the representatives of FAO, OIE and WHO, preliminary recommendations of the meeting were presented to participants and further discussed. These did not take account all of the findings from the working groups and are elaborated further in the outcomes document.

Next step – Technical Report of the Meeting (outcomes document)

The outline of the technical report of the meeting was presented by Tony Forman (FAO). This outcome document will be prepared by the organising agencies. It will build on the conclusions and recommendations of the meeting and will be sent to participants and donors to serve as a background document for the Ministerial Conference to be held in New Delhi in December 2007.

CLOSING REMARKS

(Presented by David Nabarro, UNSIC)

On behalf of all partner organisations, David Nabarro (UNSIC) presented the following closing remarks.

What we set out to do

- Review strategies*
 - to control highly pathogenic avian influenza
 - to prevent and manage human infection with the H5N1 virus
 - to prepare for containment and mitigation of the next influenza pandemic – all within the context of efforts to detect and respond effectively to outbreaks of diseases that endanger human survival

* By *strategies* I mean "doing the right thing, in the right place, at the right time".

Questions we asked

- To what extent are the strategies currently being used:
 - technically appropriate for a range of different settings?
 - implemented effectively?
 - achieving the desired impact?

Implementation

- Examine ways in which national implementation of strategies is supported with technical and financial assistance from regional and global mechanisms

What we did - where next

- Articulate **long-term vision and plan** on **HPAI control (HPAIc)** and **pandemic preparedness (PanPrep)**
- **HPAIc and PanPrep communications strategy**
- **Progress report on HPAIc and PanPrep** (end-August 2007)
- Incorporate **Rome conclusions**
- Assess **achievements, outcomes** and **impact**
- Examine **gaps** and identify **priority needs**
- **Livelihood-based approaches** to transforming the poultry sector to reduce risks of ill

health

- Advocacy for **"One Health"** (animal, human, environment)
- Ministerial Conference on Avian and Pandemic Influenza December 2007.

The meeting was officially closed by Joseph Domenech, FAO.

SESSION 5: REVIEW OF INTERNATIONAL AGENCY PROGRAMMING AND IMPLEMENTATION MECHANISMS

This session was held separately to the technical workshop in order to permit informal exchange between donors and international agencies on challenges being faced with ensuring sustained financial and technical support for effective implementation of strategies.

5.1 Presentation on funding and raising of key concerns

The World Bank presented the practical challenges faced by the Financing Framework for Avian and Human Influenza programmes in developing countries since its creation at the Beijing Conference in January 2006. This was followed by a discussion with donors and government representatives.

HIGHLIGHTS

- a. Out of the USD 1.8 billion pledged in Beijing, USD 1.4 billion has been committed (i.e. legal agreement between donor and recipient) and USD 742 million disbursed (i.e. money transferred to the recipient). Another USD 495 million was pledged at the Bamako Conference in December 2006.
- b. Contrary to the stated intent in Beijing to ensure that the majority of funding was made available directly to countries in support of their national avian and human influenza programmes, analysis of recipients of funds indicates that less than half of total funding is going to countries; so far non-national recipients such as regional organisations and the United Nations are the main recipients of the funds that have been disbursed.
- c. The World Bank has proceeded comparatively rapidly, given its procedures, to the allocations of grants and loans: in the last year, integrated country programmes have been finalised and appraised in more than 25 countries.
Full outcomes of this financing will not be known until completion of programmes, which can take up to three years as most of the programmes address the strengthening of systems.
As of today, the World Bank has financed programmes in 58 countries, up from one 18 months ago.
- d. Agreement and disbursement of loans tends to be a slower process than the one for grants; a larger share of grants would therefore be desirable, if not necessary.
Presently there are USD 80 million (from nine donors) in the avian and human influenza (AHI) multi-donor financing facility for grant support; all funds received have been signed away for recipients.
- e. The joint UN/ World Bank Third Progress Report on the Global State of Influenza Pandemic Readiness and Capacity to Control HPAI (to be issued by the end of August 2007) will assess the current AHI situation and progress achieved so far globally, and identify gaps in the response and preparedness for a pandemic in-country and in external assistance; to this end, UN and national AHI focal points have been requested to fill out a questionnaire based on a list of indicators; later in the year, information from countries will be included in the report as country case studies.

5.2 Discussion of mechanisms for implementation of international support

Agencies gave a brief overview of their financial situation and explained the challenges they are facing when implementing their programmes. The United States recalled that the decision to hold a technical meeting in advance of the next International Ministerial Conference was made at the Conference in Bamako and expressed thanks to the organisers for a well-conducted and fruitful meeting. The international agencies, funds, programmes and development banks demonstrated that they seek to work in synergy, and that (where appropriate) they continue to support global,

regional and (in some cases) country level work in line with the UN System Consolidated Action Plan of November 2006.

HIGHLIGHTS

- a. The ways in which government is structured and operate in some countries is highly decentralised and this creates challenges for national authorities to ensure rapid absorption of financial resources, and effective and consistent implementation of AHI strategies at district and local level.
- b. Given the need for long-term responses to avian and human influenza threats, the focus of assistance should increasingly be on the better development of sustained institutional capacity within countries: this calls for long-term external support for national action and continued alignment of this support, at the national level, with stated government priorities.
The UN system and the World Bank were asked to continue working with national authorities and the donor community, in countries, to encourage this alignment.
- c. In the near future, it would be desirable to consider broadening work on avian influenza to all diseases transmitted by animals: this would require sustainability of funding.
- d. Expanding pandemic preparedness beyond the health sector is a necessity and requires more substantial funding than presently available; planning for humanitarian assistance in case of a pandemic is also an area that needs special attention.
- e. Increased collaboration and coordination is needed to ensure effective support for communication work regarding responses to avian influenza especially in situations where the disease is enzootic, and the mobilization of risk-reducing behaviour changes.
- f. The UN system and the World Bank were asked to maintain a focus on the impact of external assistance for AHI work provided to date and the effectiveness of the processes through which the assistance is provided.

ANNEX 1: AGENDA

Technical Workshop on Highly Pathogenic Avian Influenza and Human H5N1 Infection

27 – 29 June 2007
FAO Headquarters
Rome, Italy

DAY 1

- 8.00 – 9.00** Registration
- 9.00 - 10.15** **SESSION 1: WELCOME AND INTRODUCTION** (open to media)
Chair: Samuel Jutzi, Director AGA, FAO
- Welcome addresses*
David Harcharik (FAO)
David Heymann (WHO)
Alex Thiermann (OIE)
Vanessa Tobin (UNICEF)
- Welcome and Status of UN Preparedness*
David Nabarro (UNSIC/PIC)
- Presentation of Meeting Programme*
Jim Hancock (FAO)
- 10.15 – 10.30** Coffee break
- 10.30 – 12.30** **SESSION 2: TOWARDS A RISK ASSESSMENT** (open to media)
- 2.1 An assessment of H5N1 – situation, trends and insights**
Chair: Juan Lubroth (EMPRES, FAO)
Rapporteur: Liz Mumford (WHO)
- Global situation: HPAI outbreaks in poultry – a synthesis of country reports to OIE*
Antonio Petrini (OIE)
- Trends and dynamics of HPAI, and the latest understanding of HPAI epidemiology and future animal health risks*
Joseph Domenech (FAO)
- Avian Influenza A(H5N1) and Risks to Human Health*
Keiji Fukuda (WHO)
- Discussion: What do we know in terms of risks, from an interdisciplinary perspective, in different geographical and time scales? What more do we need to know?*
- 12.30 – 13.00** Press conference
- 13.00 – 14.00** Lunch

14.00 – 18.00	SESSION 3: ASSESSMENT OF EFFORTS OVER THE LAST THREE YEARS
14.00 – 15.30	<p>3.1 Achievements and lessons learnt - Experiences of case-study countries</p> <p>3.1 a Focus on animal health Chair: Alain Vandersmissen (EC) Rapporteur: Claudine Gonzalves (UNDP)</p> <p><i>Analyses of the last three years across a spectrum of risk and institutional settings: Egypt, Nigeria, Indonesia, China, Viet Nam and Turkey</i> CVO of each country, FAO</p>
15.30 – 15.45	Coffee break
15.45 – 18.00	<p>3.1 b Focus on human health Chair: Keiji Fukuda (WHO) Rapporteur: Koji Nabae (UNSIC/PIC)</p> <p><i>WHO Region Experiences</i> Paul Gully (WHO)</p> <p><i>Discussion: Key issues and priorities from country and regional case studies</i> Chair: Osman Mansoor, UNICEF Rapporteurs: Claudine Gonzalves (UNDP) and Koji Nabae (UNSIC/PIC)</p>
18.00 – 18.30	Working Group Facilitators meeting
18.30 – 20.00	Cocktail

DAY 2

8.30 – 10.30	<p>3.2 Achievements, issues and options on strategies for HPAI control and prevention Chair: Alex Thiermann (OIE) Rapporteur: Michael Mosselmans (UNSIC/PIC)</p> <p><i>What has been achieved on technical understanding and support, including the integration of tools for control (e.g. vaccination, compensation, and surveillance and disease intelligence)</i></p> <ul style="list-style-type: none"> • <i>Implementing appropriate FAO/OIE prevention measures in different country contexts</i> Christianne Brusckhe (OIE) • <i>Outbreak control responses – overview of country and regional field programme operations</i> Les Sims (independent expert) <p><i>Evidence on short-term socio-economic impacts and issues and options arising from applying outbreak control measures – including culling and compensation</i> Anni McLeod (FAO)</p> <p><i>Trends, issues and options in applying long term biosecurity measures on production systems and sector structure</i> Olaf Thieme (FAO)</p> <p><i>A critical reflection on communication in the disease control process and behaviour change</i> Basil Rodrigues (UNICEF)</p>
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Short presentation on Communication Roundtable (Rome, April 2007)
Satya Sarkar (FAO)

Clarifications and short discussion: Points to highlight for afternoon working groups

10.30 - 10.45 Coffee break

10.45 - 11.30 **3.3 Issues and options for implementation of strategies for pandemic preparedness**

Chair: Paul Gully (WHO)
Rapporteur: Fabrizio Gentiloni (OCHA)

Assessment of preparedness of human health systems to respond to pandemic influenza

Paul Gully (WHO)

Assessment of UN system preparedness to sustain essential systems livelihoods, security, governance in case of pandemic

William Paton and Peter Scott-Bowden (UNSIC/PIC, WFP)

Clarifications and short discussion: Points to highlight for afternoon working groups

11.40 -13.15 **3.4 Assessment of institutional strengthening and support at national and regional level**

Chair: Mobido Tiemoko Traoré (IBAR)
Rapporteur: Paul Gully (WHO)

A critical reflection on the use of PVS and veterinary governance for the future

Alex Thiermann (OIE)

Strengthening the relationship between public and private sector roles (both commercial and community animal health) in addressing animal health

Rob De Roij (FAO)

Regional and global technical support (regional coordination units, laboratory, wildlife and other networks, etc) including interagency technical collaboration and incident command systems for emergency responses

Gardner Murray (OIE) and Joseph Domenech (FAO)

Ensuring inter-governmental support to national and other stakeholder for integrated support – Contingency planning etc.

David Nabarro (UNSIC/PIC)

Clarifications and short discussion: Points to highlight for afternoon working groups

13.15 – 14.30 Lunch

14.30 - till late **SESSION 4: STRENGTHENING GLOBAL STRATEGIES – IDENTIFYING PRIORITIES AND WAYS FORWARD**

Chair: David Nabarro (UNSIC/PIC)
Rapporteur: Jan Slingenbergh (FAO)

4.1 Working Group sessions

Working Group 1. Detection and emergency responses in an epizootic situation

Facilitator: Katinka de Balogh (FAO)

Rapporteur: Christianne Brusckke (OIE)

Working Group 2. Containment and elimination in enzootic situations

Facilitator: Alex Thiermann (OIE)

Rapporteur: Tony Forman (independent expert c/o FAO)

Working Group 3. Restructuring and its consequences

Facilitator: Jim Hancock (FAO)

Rapporteur: Ketan Chitnis (UNICEF)

Working Group 4. Pandemic preparedness

Facilitator: Paul Gully (WHO)

Rapporteur: Michael Mosselmans (UNSIC/PIC)

Working Group 5. Collaboration between animal and human health sectors

Facilitator: Elizabeth Mumford (WHO)

Rapporteur: (FAO/OIE) or Koji Nabae (UNSIC/PIC tbc)

Working Group 6. Interagency collaboration mechanisms (broader partnerships)

Facilitator: David Nabarro (UNSIC/PIC)

Rapporteur: John Jabbour (WHO/EMRO)

DAY 3

8.30 - 12.00

4.2 Working Group presentations

Chair: David Nabarro (UNSIC/PIC)

Rapporteur: Jan Slingenbergh (FAO)

4.3 Conclusions and Recommendations of the Technical Workshop

Co-chairs: Joseph Domenech (FAO), Bernard Vallat (OIE), Paul Gully (WHO)

Rapporteur: Christianne Brusckhe (OIE)

4.4 Next steps - Outline of the Technical Report (outcome of the meeting)

Co-chairs: Joseph Domenech (FAO), Bernard Vallat (OIE), Paul Gully (WHO)

4.5 Closing remarks

David Nabarro (UNSIC/PIC) on behalf of all participants

12.00

End of Technical Workshop

12.00 – 13.00

Lunch

13.00 - 18.00

SESSION 5: REVIEW OF INTERNATIONAL AGENCY PROGRAMMING AND IMPLEMENTATION MECHANISMS

Please note limited participation: international agencies and donors

5.1 Presentation on funding and raising of key concerns

Chair: David Nabarro (UNSIC/PIC)

Rapporteur: Pauline Zwaans (World Bank)

Presentation by the World Bank on funding assessment to be updated by September 2007

Olga Jonas (World Bank)

Facilitated open discussion: Highlighting of issues by different agencies

5.2 Discussion of mechanisms for implementation of international support

Chair: Olga Jonas (World Bank)

Rapporteur: Marianne Muller (UNSIC/PIC)

Modalities for prioritisation in programming and planning, at country, regional and global level

Institutional mechanisms for support – coordination, funding modalities, indicators and monitoring

Policy partnerships and arrangements to support programme delivery

5.3 Final presentations

5.4 Conclusion and next steps

Co-chairs: Olga Jonas (World Bank), David Nabarro (UNSIC/PIC)

Rapporteur: Marianne Muller (UNSIC/PIC)

5.5 Closing remarks to session on programme issues

18.00

End of meeting

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