To strengthen cooperation for combating avian and pandemic influenza a “High-level Consultation on Avian Influenza in Bangladesh and India” was held at Dhaka, Bangladesh on 27-28 August 2008. The situation in the Region and in both countries was presented at the consultation. The response strategies of Thailand and Indonesia with health care facility preparedness in Thailand were shared. A round table discussion was held on: Cross-border issues, Surveillance capacity and response, and Rapid containment at border areas. Joint recommendations were issued at the concluding session of the consultation.
Avian Influenza in Bangladesh and India

Report of the High-level Consultation
27-28 August 2008, Dhaka, Bangladesh
# Contents

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acronyms used</td>
<td>v</td>
</tr>
<tr>
<td>1. Introduction</td>
<td>1</td>
</tr>
<tr>
<td>2. Objectives</td>
<td>2</td>
</tr>
<tr>
<td>3. Expected outputs</td>
<td>2</td>
</tr>
<tr>
<td>4. Inaugural session</td>
<td>2</td>
</tr>
<tr>
<td>5. Transcripts from presentations</td>
<td>5</td>
</tr>
<tr>
<td>5.1 Review of human AI situation in South-East Asia Region (2003–2008)</td>
<td>5</td>
</tr>
<tr>
<td>5.2 An update on highly pathogenic avian influenza in Asia</td>
<td>6</td>
</tr>
<tr>
<td>5.3 Status of avian influenza in India (Poultry)</td>
<td>7</td>
</tr>
<tr>
<td>5.4 Preparedness and outbreak response to avian/pandemic influenza in India</td>
<td>9</td>
</tr>
<tr>
<td>5.5 Avian influenza situation in Bangladesh</td>
<td>10</td>
</tr>
<tr>
<td>5.6 Avian Influenza country situation Bangladesh: Health perspectives</td>
<td>12</td>
</tr>
<tr>
<td>5.7 Experience from Thailand</td>
<td>14</td>
</tr>
<tr>
<td>5.8 Experiences from Indonesia</td>
<td>16</td>
</tr>
<tr>
<td>5.9 Health care facility preparedness</td>
<td>17</td>
</tr>
<tr>
<td>5.10 Disease surveillance capacity and response: Bangladesh</td>
<td>18</td>
</tr>
<tr>
<td>5.11 Seasonal/avian/pandemic influenza surveillance capacity and response in India</td>
<td>20</td>
</tr>
<tr>
<td>5.12 Avian Influenza (H5N1) in India</td>
<td>22</td>
</tr>
<tr>
<td>6. Closing session</td>
<td>23</td>
</tr>
</tbody>
</table>

# Annexes

<table>
<thead>
<tr>
<th>Annex</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Programme</td>
<td>25</td>
</tr>
<tr>
<td>List of participants</td>
<td>28</td>
</tr>
<tr>
<td>Recommendations</td>
<td>31</td>
</tr>
</tbody>
</table>
# Acronyms used

<table>
<thead>
<tr>
<th>Acronym</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADB</td>
<td>Asian Development Bank</td>
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<tr>
<td>AEFI</td>
<td>adverse events following immunization</td>
</tr>
<tr>
<td>AFP</td>
<td>acute flaccid paralysis</td>
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<tr>
<td>AIIR</td>
<td>airborne infection isolation room</td>
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<tr>
<td>ARDS</td>
<td>acute respiratory distress syndrome</td>
</tr>
<tr>
<td>BLRI</td>
<td>Bangladesh Livestock Research Institute</td>
</tr>
<tr>
<td>BSL</td>
<td>bio safety level</td>
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<tr>
<td>CFR</td>
<td>case fatality rate</td>
</tr>
<tr>
<td>CHD</td>
<td>Coronary Heart Disease</td>
</tr>
<tr>
<td>COPD</td>
<td>Chronic obstructive pulmonary disease</td>
</tr>
<tr>
<td>CSR</td>
<td>Communicable Disease Surveillance and Response</td>
</tr>
<tr>
<td>DMSc</td>
<td>Department of Medical Sciences</td>
</tr>
<tr>
<td>GIS</td>
<td>Geographical Information System</td>
</tr>
<tr>
<td>ICDDR,B</td>
<td>International Centre for Diarrhoeal Disease Research, Bangladesh</td>
</tr>
<tr>
<td>ICMR</td>
<td>Indian Council of Medical Research</td>
</tr>
<tr>
<td>IDSP</td>
<td>Integrated Disease Surveillance Project</td>
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<tr>
<td>IEC</td>
<td>information, education and communication</td>
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<tr>
<td>IEDCR</td>
<td>Institute of Epidemiology Disease control and Research</td>
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<tr>
<td>MoHFW</td>
<td>Ministry of Health and Family Welfare</td>
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<tr>
<td>MOFL</td>
<td>Ministry of Fisheries and Livestock</td>
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<tr>
<td>MoPH</td>
<td>Ministry of Public Health</td>
</tr>
<tr>
<td>NIC</td>
<td>National Influenza Centre</td>
</tr>
</tbody>
</table>
Acronyms used

NICD  National Institute of Communicable Diseases
NICED  National Institute for Cholera and Enteric Diseases
NIH  National Institute of Health
NIPPP  National Influenza Pandemic Preparedness Plan
PPE  Personal Protection Equipment
RRT  Rapid Response Team
SOPs  Standard Operating Procedures
SRRT  Surveillance and Rapid Response Team
TADINFO  Transboundary Animal Disease Information
1. Introduction

The current outbreaks of highly pathogenic avian influenza, which began in South-East Asia in mid-2003, are among the largest and most severe on record. Never before have so many countries been simultaneously affected. The disease has resulted in the death or destruction of an estimated 200 million birds. The reported most human cases were apparently infected from direct contact with sick poultry or contaminated materials. So far, there are reports of limited, un-sustained human-to-human transmission. Given the high population density and close animal-human interface in most countries in the South-East Asia Region, an influenza pandemic is a very real threat in this Region. The threat of a pandemic and its management therefore poses a great challenge and responsibility.

In the recent past, a few meetings on bilateral issues such as border health planning and management have been held besides several multilateral and regional meetings on AI planning and management. The concept of “Introducing a health information exchange mechanism for planning border health cooperation for emergency preparedness among neighbouring countries’ evolved from a cross-border meeting on Emerging Infectious Diseases organized by the World Health Organization (WHO) in Bangkok from 26-28 February 2007. The meeting was organized to review the status of cross-border disease control activities and to develop a strategic framework for cross-border collaboration.

A meeting between India (Department of Animal Husbandry, Dairying and Fisheries, Ministry of Agriculture) and Bangladesh (Ministry of Fisheries and Livestock), was held on 25th June 2008. The two countries agreed to share the Viral Genome Sequence of their respective AI occurrences and to alert each other through e-mail of any unusual mortality suspected to be AI with follow up and the possibilities for collaboration between the Bangladesh Livestock Research Institute (BLRI) and its Indian counterpart.

To strengthen cooperation between the two countries in combating avian and pandemic influenza a “High-level Consultation on Avian Influenza in Bangladesh and India” was held in Dhaka, Bangladesh on 27-28 August 2008. The situations in the Region and in both countries were
presented at the consultation. The AI response strategies of Thailand and Indonesia with health care facility preparedness in Thailand were shared. A round table discussion was held on cross-border issues, ‘surveillance capacity and response’, and rapid containment in border areas. The Schedule for the consultation and List of participants is shown in Annex 1 and Annex 2 respectively. The meeting issued joint recommendations (Annex 3).

2. **Objectives**

(1) To strengthen points of entry and exit  
(2) To develop a joint rapid containment plan for border areas, and  
(3) To put in place the most appropriate surveillance and prevention measures to prevent and control the spread of avian influenza.

3. **Expected outputs**

(1) Designated lines for reporting and communication for avian influenza and other events of concern occurring in border areas between two countries;  
(2) Action plan to strengthen points of entry and exit between India and Bangladesh; and  
(3) To develop a joint containment plan for avian influenza.

4. **Inaugural session**

The inaugural session was chaired by Professor M.A. Faiz, Director-General of Health Services, Secretary, Ministry of Health and Family Welfare, Mr Zafarullah Khan was the chief guest. The other distinguished persons on the podium were Mr Vineet Chawdhry, Joint Secretary, Ministry of Health and Family Welfare (MoHFW), India, Mr Ujjwal Bikash Dutta, Joint Secretary (Public Health and WHO), MoHFW, Bangladesh, Mr Sunil Chandra Ghosh, Director-General, Department of Livestock Services, Bangladesh, Dr. Duangvadee Sungkhobol, WHO Representative to Bangladesh and FAO Country Representative, Bangladesh.
Mr Dutta, welcomed the participant and said that well coordinated efforts were needed to combat the avian influenza (AI) situation in both the countries especially cross-border efforts. He also elaborated the objectives of the meeting and hoped that a concrete joint action plan would be formulated based on the recommendations.

Dr Duangvadee Sungkhobol delivered the message of Dr. Samlee Plianbangchang, WHO Regional Director for South-East Asia. In his message, the Regional Director said: “The recent outbreaks of avian influenza, Nipah virus, Enterovirus 71, dengue and chikungunya fever in the South-East Asia Region have clearly demonstrated the vulnerability of our countries to emerging and re-emerging infectious diseases including avian influenza. Nearly half of the total cases of human avian influenza were reported from the South-East Asia Region in 2007. Thus far this year, more than half of the 34 reported cases worldwide have been from this Region and Bangladesh reported its first human case of AI in 2008, indicating that we should not become complacent about this disease and that continued active surveillance and rapid response remains a priority.”

“Given the high population density and close animal-human interface in most countries in the South-East Asia Region, an influenza pandemic is a very real potential threat in this Region. We, therefore, need to plan and prepare to respond rapidly to outbreaks of avian influenza that may affect the Region and that could involve the vulnerable and porous Indo-Bangladesh border that stretches across 4095 kms. It is critical to ensure that effective and functioning surveillance systems are in place in all countries for early detection and response to this threat. Cross-border collaboration between India and Bangladesh will need to be in line with the new obligations set out under the International Health Regulations. Partnerships will also be key to developing and implementing these joint action plans.”

“This meeting will provide an open forum for both government ministries and sectors, to share the experience and to discuss the future direction of collaboration. If we can achieve the objectives of this meeting, we will have taken a great step towards enhancing our capacity nationally to manage avian influenza between two countries”, the Regional Director added.
Mr Adrianus Spijkers, FAO Country Representative in Bangladesh, outlined the role of FAO as a multisectoral partner in collaborating with the government in the avian influenza program. FAO, along with USAID, Asian Development Bank (ADB), the World Bank and JICA is providing interactive technical support to the government for preparedness in combating the threat from pandemic influenza.

Mr Vineet Chawdhry felt proud to lead the largest-ever delegation of India to a bilateral consultation meeting and said that it symbolize the importance the Indian government has given to the meeting. He expressed concern about large outbreaks in poultry in India and informed that India had developed the ‘New Delhi Road Map’ in December 2007. He outlined the ‘Concept of One Health’ which knits together human, animal and environmental health. In India the Department of Livestock plays the key role in the AI programme. The health department plays a supporting role by providing prophylaxis to the cullers during and after an outbreak of AI in poultry. India and Bangladesh need to foster strong cooperation in dealing with cross-border issues regarding AI outbreaks. They should share their experiences on AI surveillance, management and risk communication.

The Director-General of Livestock Services, Dr Sunil Chandra Ghosh, informed the meeting about the workplan of the department to deal with AI outbreak in poultry as well as the activities and plans undertaken by the government to combat AI epidemic and pandemic in poultry and humans. The country has a national preparedness plan, national advisory and technical committees as well as multisectoral and technical committees at district and upazilla levels. He also expressed concern at the huge economic and social impact of outbreaks in poultry which had lead to the closure of a large number of poultry farms.

Mr. Zafarullah Khan, Secretary, MoHFW thanked the organizers for the timely arrangements made for the consultation. Avian influenza was a serious threat for the whole world. He felt that public health officials need to be alerted at all the borders. Immediate priority action should be focused on poultry to halt transmission to humans. The Government of Bangladesh had accorded the highest priority to this programme with strong and effective cooperation of development partners.

In his inaugural address, Dr. M.A. Faiz, Director-General health services (DGHS), thanked all the participants for attending the consultation. He also thanked WHO for its technical cooperation in arranging the
Appropriate and timely measures can help in preventing the AI pandemic. Bangladesh and India had prepared well to combat the situation. He detailed the programme undertaken by DGHS to combat the AI pandemic. The Government had established isolation wards in 30 district hospitals and will expand these to 34 other districts by November 2008. Doctors and other health care providers had also been trained and there was a stockpile of anti-virals to combat outbreak situations.

5. Transcripts from presentations

5.1 Review of human AI situation in South-East Asia Region (2003–2008)

Dr. Khanchit Limpakarnjanarat, Regional Adviser, CSR, WHO/SEARO

As of August 24, 2008, 15 countries were affected with 385 confirmed human H5N1 cases and 243 deaths (CFR - 63%). Primarily transmission occurred from infected birds (poultry). Sporadic cases and small family clusters were found but no evidence of sustained human to human transmission were proved. Limited un-sustained human-to-human transmission due to intimate prolonged contact at a critical stage of illness was probable in Thailand in 2004. There are 10 genetically and antigenically different groups (clades) of H5N1 viruses identified in poultry and wild birds. Among them, 4 clades of H5N1 viruses infected humans. A total of 162 confirmed human AI cases with 127 deaths were reported from countries in the South-East Asia Region since the virus resurfaced in Asia in 2003.

Till 24 August 2008, 34 confirmed cases with 26 deaths (76.5%) were reported in five countries: Indonesia: 18 cases (83% fatal), Egypt: 7 cases (43% fatal), China: 3 cases (100% fatal), Vietnam: 5 cases (100% fatal), Bangladesh: 1 case (0% fatal).

Analyzing the epidemic curve of all cases shows that the virus is still spreading with high case-fatality and some seasonality in peak of transmission. Risk groups for human AI infection are young adults, children in close proximity to infection source, infected poultry or poultry product handlers. The overall case fatality is 63%, highest among the 10-19 age group and, lowest among persons over 50 years.
Clustering involving 2-3 persons were reported in 10 countries (~25% of world cases) of which 90% have occurred among blood relatives. Secondary transmissions from index case to primary and secondary cases have been observed on a limited level. Till date 20% of cases have unclear exposure. Environmental-to-human transmission remains possible. Limited non-sustained human-to-human transmission is likely to have occurred and cannot be ruled out. Two clusters with probable 3rd generation transmission have also been identified.

There is an opportunity to prepare for a pandemic which is yet to strike. Readiness based on a contingency plan and training (animal & human sectors) is essential for prompt response. Table-top and simulation exercises are essential to test and validate National Influenza Pandemic Preparedness Plan (NIPPP) and its components.

5.2 An update on highly pathogenic avian influenza in Asia

Dr. Dewan Sibartie, Chief Technical Advisor, FAO Avian Influenza Unit - Bangladesh

In Asia, the first outbreak of AI infection in poultry has reported in the Republic of Korea (10/12/2003). So far 23 countries have been infected with Saudi Arabia (12/03/2007) at the end of the list. No new country has been affected since March 2007. All countries except Mongolia had infections in domestic poultry and 13 countries have had H5N1 in wildlife as well. Ten countries have had outbreaks in 2008 (Bangladesh, China, India, Indonesia, Israel, Republic of Korea, Pakistan, Saudi Arabia, Vietnam and Thailand). The countries which reported infections again after the declaration of freedom from AI infection are: India, Japan, Malaysia, the Republic of Korea.

Concentration of poultry and H5N1 outbreaks in Bangladesh

About 50% of poultry outbreaks have been reported from seven districts (Chittagong, Dhaka, Dinajpur, Gazipur, Jamalpur, Narayanganj, Narsingdi), which contain 24% of the total poultry population and 8% of the total duck population. Some highly-affected districts (containing a small proportion of the total poultry population) reported cluster outbreaks.
**FAO activities - country level**

Policy making and coordination: A functional avian influenza unit staffed by international and national consultants has been established and is working in close collaboration with the government.

Disease detection and reporting: An active surveillance programme by Community Animal Health Workers (CAHWS) who carry out door-to-door surveillance is promoted. Recruitment of veterinarians whenever required to investigate suspect cases has been ongoing. Electronic reporting using the SMS Gateway system has been instituted.

Disease diagnosis: FAO is providing training to laboratory staff in diagnostic methodologies and is providing equipment and reagents. Refurbishment and conceptual floor plans for laboratories is also being recommended.

Disease control and eradication: To study wet markets and make recommendations and to carry out knowledge, attitude and practices (KAP) analysis, NGOs have been engaged by FAO. Training in outbreak management and response has been provided and SOPs developed.

Disease prevention: Emphasis is being given to training and critical points in wet markets have been identified. The socio-economic impact of highly pathogenic avian influenza (HPAI) has been studied. A GIS mapping system for the poultry sector has been established.

### 5.3 Status of avian influenza in India (Poultry)

Dr. A.B. Negi, Joint Commissioner, Department of Animal Husbandry, India

India was free from HPAI till 17 February, 2006. The first incidence occurred in February-March, 2006 in two districts of Maharashtra, which spilled over to adjacent districts of Gujarat and Madhya Pradesh. In August 2006 the country was HPAI free. The second wave of HPAI outbreaks occurred in a solitary backyard farm in Imphal district of Manipur in July 2007. Thereafter, the country was HPAI free in November, 2007.
West Bengal: The outbreak in West Bengal was notified on 15 January, 2008 in two districts. It spread to 13 other districts and approximately the area of 8.4% of the State was affected.

Tripura: The outbreak was notified on 7 April, 2008 in a village in Dhalai district. Subsequently two more villages in West Tripura district were affected. There were a total of three outbreaks in two districts.

Outbreaks were localized in very small areas of eastern and western India between 2006 and 2008. The last notification date is 16 May 2008 (Bijanbari, Darjeeling, West Bengal) when 17 districts, 58 blocks and two municipalities were affected and the total epicentres were 71. All together, 4.45 million birds were culled and 1.64 million eggs as well as 95,286 kg feed was destroyed. About Rs.130 million were paid as compensation. Control and containment operations were completed and post-operation surveillance is in progress.

**Future plans**

**Short-term**

- A surveillance zone will be established 5 km around each infected area for tracing infection in the affected zone and there will be no poultry activity for three months following an outbreak. A plan for setting up four pre-fabricated BSL-III labs will be prepared.

**Medium-term**

- A bird flu sterile zone of 5 km or 10 km along the international border will be created either by vaccination or depopulation of poultry. The Country Action Plan will be updated.
- Bird flu-free zones or compartments for facilitating export of poultry and poultry products will be created.
- Suitable technologies for convenient and humane culling of poultry with special emphasis on backyard poultry will be identified.
Long-term

- Risk analysis and assessment in view of the experiences gained in AI so far and risk mitigation will be conducted.
- Surveillance and monitoring information system will be strengthened.
- Quarantine and animal health inspection services will be strengthened.
- Capacity enhancement with increased professional manpower both at the Centre and in the States will be undertaken.
- Involvement of veterinarians working with the Army and various Border Security Forces in containment of transboundary animal diseases will be encouraged.
- Villagers in the border districts will be weaned away from rearing backyard poultry.
- Mass awareness will be created along the border districts through village panchayats against informal trade in live animals and livestock products.

5.4 Preparedness and outbreak response to avian/pandemic influenza in India.

Dr. Shashi Khare, Joint Director, National Institute of Communicable Diseases, India

A contingency plan for AI has been finalized by an Inter-Ministerial Task Force. Training of Rapid Response Team’s, stockpiling of drugs, PPE and critical care equipment has been undertaken to deal with the problem. Laboratory strengthening and networking is in place in Indian Council of Medical Research and Integrated Disease Surveillance Project labs, including BSL-3 laboratories. Surveillance for seasonal influenza is ongoing. A roadmap was finalized at the International Partnership on Avian and Pandemic Influenza Meeting held during 4-6 December 2007 in New Delhi. A block primary health centre with isolation facility, referral sub-divisional/district hospital with facility for critical care and Infectious Disease Hospital at state level with facility for critical care had been prepared. So far, a total of 47 samples were collected and all were found negative for H5N1.
5.5 Avian influenza situation in Bangladesh

Dr Salehuddin Khan, CVO, Poultry and wild life situation in Bangladesh

In Bangladesh 50% of poultry is reared in the backyard and 50% in the commercial sector. Over 80% of rural households rear backyard chicken. Around 5350 million eggs are produced per year and it is estimated that 30% of the meat consumed comes from poultry. During the last two decades the commercial sector has grown very rapidly. Of the 244 species of migratory birds that visit Bangladesh, 21 species may carry the HPAI/H5N1 virus. No outbreak has so far been recorded in migratory birds. As a result of market collapse, many farm owners were compelled to abandon poultry raising because of loss of capital. A socio-economic analysis shows a loss of Taka 38580 millions due to avian influenza.

Coordination and policy planning

Multisectoral coordination from the highest level to the field level has been operationalized involving animal health, human health, wildlife, civil administration, law enforcing agencies, local government, and civil society. A FAO Technical Unit has been established with financial support from USAID and is playing an important role in coordination. The Chief Veterinary Officer has been designated as AI coordinator to coordinate different projects and activities related to avian influenza in animals.

Epidemiology and surveillance

An epidemiology unit has been established with technical and financial support from FAO and USAID. TADINFO for epidemiological analysis and Arc View software for GIS mapping has been installed and concerned staff trained.

Epidemiology staffs are trained on Applied Veterinary Epidemiology to equip them to carry out epidemiological investigation. With FAO technical support, epidemiology unit staff carried out epidemiological investigation in three farms. Another round of surveillance will be carried out in 150 upazilas, in which 450 animal health workers and 50 veterinary surgeons will be deployed.
Capacity improvement initiatives

- Seven Field Disease Investigation Laboratories and the Central Disease Investigation Laboratory can carry out Rapid Antigen Detection Test, Enzyme-linked immunosorbent assay (ELISA), HA and HI.
- Currently, BLRI can identify H5 subtypes employing RT-PCR.
- With support from USAID, the government is planning to expand Direct Antigen Detection Test capacities to 64 districts: already, 10 laboratories have started work.
- A group of laboratory scientists will be trained at the High Security Animal Health Laboratory in Bhopal, India, on laboratory safety and techniques.
- A World Bank supported project has trained 350 field officials of Department of Livestock Services (DLS) on culling, disposal and containment.
- Sixty leading farmers in each upazila will be trained on biosecurity and reporting. So far 2400 farmers in 40 upazilas have been trained.
- Response teams have been formed and trained on response techniques (culling, disposal and disinfection), personal safety, bio-safety and security.
- To strengthen coordinated response, FAO and DLS trained district administrators and district level police personnel have been put on AI response.

Ongoing projects

- Avian Influenza Preparedness and Response Project for USD 2 million. Major areas to be covered are: laboratory capacity improvement; capacity building in the field of surveillance and epidemiology; training on biosecurity; response activities and disease reporting; and communication.
- Strengthening support services for combating highly pathogenic avian influenza (HPAI) of about 5 million USD. Major areas to be
covered include rehabilitation, surveillance and outbreak management and expansion of laboratory capacity to the district level for carrying out Rapid Antigen Detection Test.

- FAO has ADB and USAID supported projects mainly to support the government with a technical unit and with Active Surveillance Network.

5.6 Avian Influenza country situation-Bangladesh: Health perspectives

Professor Mahmudur Rahman, Director, Institute of Epidemiology, Disease Control and Research (IEDCR) & National Influenza Centre (NIC), Bangladesh

Bangladesh reported the first case of H5N1 on May 22, 2008. A 16 month old boy from Dhaka reported to one of the surveillance centres with fever, running nose, mild cough, loose stool, sore on the tongue and sweating. Samples were collected as routine surveillance for seasonal influenza. Diagnosed at ICDDR,B as Influenza A and samples sent to CDC Atlanta, which confirmed the case as H5N1 on May 21. The virus belonged to Clade 2.2, corresponding with the viruses in poultry in Bangladesh as well as with the viruses in Kuwait/Afghanistan/West Bengal/Pakistan.

The five strategies of the National Avian Influenza and Pandemic Influenza Preparedness and Response Plan 2006-2008, are:

- Planning and coordination
- Surveillance and early warning
- Prevention and control
- Health systems response
- Risk communication

The formation of different committees and their responsibilities in management of avian influenza and in pandemic influenza preparedness and response were also described in brief.
**Health sector’s response**

The MoHFW Bangladesh took a serious view of the avian influenza situation and had taken the following steps:

- Training of members of 64 District RRT and 471 Upazilla RRT
- Training of 3700 medical personnel and 137 microbiologists
- Training of medical technologists
- Training of 226100 volunteers at union levels
- Community awareness covering 28 million people throughout the country
- Table-top exercises at national and divisional levels
- Training of Trainers of the National RRT on rapid containment of pandemic influenza
- Upgrading the national referral laboratory at Institute of Epidemiology, Disease Control and Research (IEDCR) to BSL-3 level
- Developing clinical guidelines to improve clinical management
- Development of SOPs for management of avian and pandemic influenza
- Stockpiling anti-virals, PPE and diagnostics
- Upgrading bio-safety measures for vulnerable populations

**Preparation for AI patient management**

- Establishment of “Avian Influenza ward” in National Infectious Disease Hospital.
- Setting up of isolation units in district hospitals
- Development of a guideline for management of AI patients
- Training of physicians on clinical case management (1200).
5.7 Experience from Thailand

Dr. Supamit Chunsuttiwat, Ministry of Public Health (MOPH), Thailand

Poultry sector

Since January 2008, two confirmed poultry outbreaks were reported but no human infection was found. The numbers and areas of poultry outbreaks in Thailand are decreasing since the initial outbreak in 2004. To combat the problem, a national strategic plan was developed in 2005. Routine surveillance, stamping out and X-ray campaign are the main strategies of the plan.

Several measures were taken for the poultry population:

- Countrywide search for infected flocks twice a year followed by culling
- Extensive wet market surveys before the observance of Chinese New Year
- Collection of samples from infected poultry
- Movement restriction in 10 km radius area of infected poultry farm
- Restocking after 90 days following disinfection and culling
- Enhancement of biosecurity in poultry farms, and
- Issuing identification for fighting cocks.

Public health

Till date, 25 human cases with 17 deaths due to AI have been reported.

Several measures were taken for preventing human transmission

- Over 1000 SRRTs were formed from national to grassroots level
- National Institute of Health/Department of Medical Sciences/MOPH was certified as a WHO NIC since 1972
Standard guidelines were developed and trained medical personnel on case management including application of triage, rational use of rapid test and antivirals and hospital infection control.

Village health volunteers’ door-knocking campaign to provide risk communication.

Hand washing and mask wearing campaigns.

Information, education and communication (IEC) through mass media.

Public health - animal health cooperation for AI control

Information exchanges at central and provincial levels: websites, weekly reports, regular meetings.

Joint outbreak investigations - both on human illnesses and animal outbreaks.

Joint campaigns / press releases eg. Chinese New Year food safety campaign, National “X-ray” campaign for AI infection.

Sharing at national and provincial AI-PI committees.

Joint research and development.

Expert groups and technical meetings.

Veterinarians training.

Drive toward developing pandemic influenza vaccine capacity


5.8 Experiences from Indonesia

Dr. Wilfred Purba, Ministry of Health, Indonesia

Current situation

- AI in poultry was first reported in October – November 2003.
- By July 2008, AI had spread to 31 provinces, covering 292 districts/municipalities.
- At present, only two provinces are free from AI (North Maluku & Gorontalo).
- First human case was detected in June 2005 in Tangerang district, Banten Province followed by two confirmed cases and one probable case (cluster).
- By July 2008 there were 136 confirmed cases, of which 111 were fatal (CFR 81.62%). Human cases were reported from 12 provinces (47 districts/municipalities).
- At present, there are 11 cluster cases: The cluster in Karo, North Sumatra Province is the biggest cluster in the world with eight cases - seven confirmed cases, one probable with six of them proving fatal. All the cases were genetically related (family).
- Clusters in Indonesia: Cluster definition: at least 2 lab-confirmed H5N1 human cases with onset of symptoms within the same two-week period and who are associated by place /setting.

National Strategies for the Control of Avian Influenza

- Strategy 1: Control of avian influenza in animals
- Strategy 2: Management of human cases of HPAI
- Strategy 3: Protection of high-risk groups from infection
- Strategy 4: Epidemiological surveillance for animals and humans
- Strategy 5: Restructuring the poultry industry system
- Strategy 6: Risk communication, information and public awareness
- Strategy 7: Strengthening supporting laws
- Strategy 8: Capacity building
- Strategy 9: Action research
- Strategy 10: Monitoring and evaluation.

**Future plans**

- Training for spokespersons in provincial/district/municipality level (in progress)
- Purchase of specialized equipment and supplies for laboratory, hospital and field investigation
- Public education (posters, leaflets etc)
- KAP survey
- Increase active/passive surveillance
- Activate eight regional labs and 34 sub-regional labs
- Research on Oseltamivir, rapid test, etc.
- Training for field-level health staffs
- Seasonal influenza vaccination

### 5.9 Health care facility preparedness

Dr. Chariya Sangsajja, Bamrasnaradura Infectious Disease Institute, Department of Disease Control, MOPH, Thailand

Health care facilities at different levels in Thailand are well prepared to handle AI patients. There is a well organized hospital preparedness plan starting from a strong planning committee down to effective communication tools.
The three major principles of clinical management of influenza A (H5N1) infection in hospitals are triage system, infection control as well as specific and supportive treatment.

The triage site is in front of the hospital with posting signs with facilities for source control measures, infection control guidelines for health care workers and a transportation plan for suspected cases. Equipment for emergency situations is available in some centres.

Based on the available facilities, a strong referral system has been adapted in Thailand. Sub-district health offices refer suspected cases to district hospitals. Suspected/confirmed cases of H5N1 without pneumonia are treated at district hospitals and suspected/confirmed cases of H5N1 with/without pneumonia or Acute Respiratory Distress Syndrome (ARDS) are referred to the provincial hospital. In the provincial hospital suspected/confirmed cases of influenza A (H5N1) with/without pneumonia or ARDS treated and suspected/confirmed cases of influenza A (H5N1) with/without pneumonia ARDS complications are referred to the regional hospital for appropriate treatment.

There is an effective plan for post-mortem care and examination of AI patients. The body is sealed in an impermeable bag prior to removal from the isolation room. The autopsy is done in an airborne infection isolation room (AIIR), when it is available.

5.10 Disease surveillance capacity and response: Bangladesh

Dr. Be-Nazir Ahmed, Associate Professor (Principal Scientific Officer), Head, Department of Parasitology IEDCR, In charge of Surveillance for Avian Influenza, CDC Project

There are six surveillance systems in Bangladesh.

1. Routine surveillance (disease profile) of selected communicable and noncommunicable diseases is carried out on a monthly basis.

2. EPI disease surveillance of AFP, AEFI and other vaccine preventable diseases is carried out on a weekly basis with immediate notifying of AFP, AEFI and Neonatal Tetanus cases.
Surveillance of 13 priority communicable diseases is carried out on a weekly basis.

Emergency or outbreak related surveillance is carried out of any disease outbreak.

Institutional surveillance of 80% of diseases with which patients get admitted in medical colleges and specialized institutes is reported on a monthly basis.

Sentinel surveillance: A combination of active and passive surveillance has initially started in eight upazilas of the country which included 10 diseases. Standard case definitions were set.

**Surveillance for avian influenza and Influenza like illness**

1. Hospital-based influenza surveillance
   - Influenza like illness (ILI)
   - Severe Acute Respiratory Illness (SARI)

   There are 12 hospital-based influenza surveillance centres for ILI in outpatient departments (OPD) and SARI surveillance in inpatient departments.

2. Surveillance for “high risk” group
   - Among those in close contact with infected poultry (cullers)
   - Among the live bird handlers in the wet markets of urban areas (proposed)

3. Event-based avian influenza surveillance

4. Sentinel surveillance in 18 sites

5. Viral pneumonia surveillance in 64 district hospitals (ongoing).

To ensure daily reporting of contact follow-up from AI affected districts, another follow-up system is in place since January 2008. So far, in 47 poultry-affected districts, 3736 persons of 4409 contacts were followed up for 14 days. A total of 2860 persons were completely traced up to 14 days and six were identified with ILI. Surveillance systems need capacity building in the area of diagnostic capability and training of manpower.
5.11 **Seasonal/avian/pandemic influenza surveillance capacity and response in India**

Dr. P. Ravindran, Director, Emergency Medical Relief, Ministry of Health and Family Welfare, India

**Integrated Disease Surveillance Project (IDSP)**

The Integrated Disease Surveillance Project is the umbrella project for constant screening of 14 core diseases and conditions. States have the flexibility to add five diseases prevalent in their state. These are reported on a weekly basis in Syndromic Surveillance of Suspect Cases (reported by Health Workers), Presumptive Surveillance of Probable Cases (reported by Medical Officers) and a Lab. Surveillance programme for confirmed cases of avian influenza conducted under the “unusual clinical syndrome” category.

**SI/Al/Pandemic surveillance**

Seasonal and avian influenza surveillance is conducted on a short-term basis for:

- Poultry surveillance—both backyard and farms;
- Surveillance of wild/migratory birds, major water bodies;
- Seasonal influenza surveillance in selected areas; and
- Active house-to-house surveillance during AI outbreak/cluster containment.

On a long-term basis, IDSP is integrated for animal and human health, moving towards a one health concept.

**SI/Al virological surveillance**

Seasonal and avian influenza virological surveillance is carried out at the National Institute of Virology (NIV), Pune which is a WHO H5 reference laboratory. National Institute of Communicable Diseases is also being developed into second NIC. The laboratory is able to identify the circulating seasonal influenza (SI) strains and sequence H5N1. It has also developed a candidate vaccine strain for H5N1. There are some constraints which cause delays in reporting. These constraints are: long time to analyze and convey...
laboratory results, no epi-linkage between laboratory data and population (especially for SI) and limited capacity if a large number of samples are to be tested simultaneously.

**Activities for strengthening AI surveillance**

To overcome the above constraints, the government has launched some short-mid to long-term programme for capacity development for AI/PI preparedness and response. Establishment of a central Rapid Response Team, training of state Rapid Response Teams and initiation of training of district Rapid Response Teams as a part of IDSP are the short-term activities. Medium-to long-term activities include training of health care providers of different levels and health volunteers on AI surveillance.

**Hospital-based AI surveillance**

In addition to field-level surveillance activities, the government has also taken the initiative to strengthen hospital-based AI surveillance, case management and infection control measures. Short-term measures include establishment of data entry/analysis and reporting capabilities in hospitals; assessment and planning for surge capacity; and stockpiling of ventilators and blood analyzers. Strengthening of hospital infrastructure for critical care is covered under long-term measures.

**Pharmaceutical interventions**

There are five manufacturers licensed for bulk formulations of Oseltamivir. There are about one million capsules in stock with commitment from manufacturers for additional supply. The Serum Institute of India, one of the six manufacturers, has been identified by WHO for manufacture of pandemic influenza vaccine. Additional manufacturing capacity also exists in the private/public sector.

**Communication**

Short-term activities include development of a media strategy by the Ministry of Information and Broadcasting and IEC materials (along with UNICEF) for AI and related human health aspects. Material for “seek treatment campaign” has been developed and used in affected areas.
Medium-to long-term measures include keeping flu-wise campaign material in readiness to be used at an appropriate time.

### 5.12 Avian Influenza (H5N1) in India

Dr. A.C. Mishra, Director, National Institute of Virology, Pune, India

**Virus characterization**

All West Bengal/08 clinical samples/ isolates tested fall into Clade 2.2 as Navapur/06 and Manipur, closest ancestors of it were found in Krasnador/07, Mongolia/06, Afganistan/06 and Germany/07. Two samples show a critical S221P mutation, indicative of human adaptation (first seen in clade 2.2, from available data). One sample and its isolate show E119A mutation, two samples show N294S indicative of implications to Oseltamivir, Zanamivir drug resistance and Amantadine sensitive. Antigenic analysis of H5N1 isolates in HAI using HRBCs found similar reactivity of Manipur and WB virus with Navapur H5N1 antibody. The Manipur virus showed higher reactivity with H5N2 antibodies.

**Vaccination**

Outbreak trends suggested that poultry vaccination though available may not be appropriate. It is therefore important to maintain a close link between industry and institutions for providing guidance on vaccine policy in the country.

**H5N1 vaccine strain developed by NIV/CDC**

One H5N1 strain A/India/NIV2006(H5N1) has been developed as a non-pathogenic vaccine strain. The WHO vaccine committee has recommended this virus as a potential vaccine strain against clade 2.2 viruses.

**Human exposure to H5N1**

A total of 200 representative sera from suspected cases and 25 sera from unexposed population were collected from Maharashtra and 100 were tested by micro-neutralization and HAI assays. All were found negative. Serum samples from 22 suspected human cases collected between 20-1-08
to 08-02-08 from different places in West Bengal were also found negative. In the outbreak in West Bengal, the NICED, Kolkatta and in Manipur, the Dibrugarh regional influenza centres of the ICMR network played important roles.

Dr. Khanchit Limpakarnjanarat, Regional Adviser, CSR, WHO/SEARO presented the latest guidelines for rapid containment of AI cases of pandemic potential. The rapid containment strategy is to prevent the development of pandemic influenza, before the virus spreads more widely. Practical problems in implementing rapid containment at border areas were discussed. It was felt that more in-depth discussions were needed to address the issue.

**Round table discussions**

Round table discussions were held on the following cross-border issues:

1. Information sharing
2. SOP for measures at point of entry
3. Containment measures across the border.

The session was chaired by Mr. Ujjwal Bikash Dutta, Joint Secretary (PH & WHO), MoHFW, Bangladesh, with Dr. Shashi Khare, Joint Director, NICD, India as co-chairman. The moderator was Mr. Vineet Chawdhry, Joint Secretary, MoHFW, India. On cross-border issues, points of entry control measures were reviewed by the head of Indian delegation Mr. Vineet Chawdhry. The importance of Information sharing was reiterated. Standard Operating Procedure for measures including containment measures across the borders at point of entry needed to be formulated as mutually agreed by the concerned countries.

6. **Closing session**

The closing session was chaired by Professor Dr. M.A. Faiz, Director-General of Health Services (DGHS). The Additional Secretary, (International health), MoHFW, Bangladesh was the chief guest. The other distinguished panelists were Mr. Vineet Chawdhry, Mr. Ujjwal Bikash Dutta, Mr. Sunil Chandra Ghose, Director-General, DLS, Bangladesh and Dr. Duangvadee Sungkhobol.
Dr. Be-Nazir Ahmed presented the draft recommendations (Annex 3) prepared by a core group and reviewed by members of both teams and endorsed by all the participants. The recommendations underscored the need for strengthening the surveillance system within each country, specially across the border, identification of focal points for health to deal with issues of AI across borders, development of a Joint Pandemic Rapid Containment Plan for border areas, an exchange program for capacity development in health on surveillance, outbreak response and laboratory investigation, share experiences on clinical management of human Avian Influenza and share communication materials and strategies developed by either country.

The closing session included brief remarks from Mr. Vineet Chawdhry, Mr. Ujjwal Bikash Dutta and Mr. Sunil Chandra Ghose. They gratefully acknowledged the fruitful discussions and valuable contributions made by delegates and other participants, and expressed their satisfaction about the progress made, in particular with respect to the border issue and the recommendations.

These were followed by closing remarks from Dr. Duangvadee Sungkhobol. Finally, Dr. M.A. Faiz expressed his sincere thanks to all participants for having come to Bangladesh for this meeting and wished everyone a safe journey back home.
Annex 1

Programme

Day 1 - Wednesday, 27 August 2008

08.30-09.00  Registration

09:00-10.00  Inaugural Session

- Self Introduction
- Welcome Address and Meeting Objectives:
  Joint Secretary (WHO & PH), Ministry of Health and Family Welfare, Bangladesh
- Special Guests:
  - WHO Regional Director’s Message to be delivered by WHO Representative to Bangladesh
  - Remarks by FAO Representative to Bangladesh
  - Remarks by Head of Delegation - India
  - Remarks by Director-General, Department of Livestock Services, Bangladesh
  - Remarks by Secretary, Ministry of Fisheries and Livestock, Bangladesh
- Chief Guest: Secretary, Ministry of Health and Family Welfare, Bangladesh
- Chairperson: Director-General of Health Services, Bangladesh

Session: Morning

Chairperson: Joint Secretary, Department of Animal Husbandry, India

Co-Chairperson: Director (Disease Control), DGHS, Bangladesh

10:30-11:15  Regional Situation Review:

- **Human:** Dr. Khanchit Limpakarnjanarat, Regional Adviser, Communicable Disease Surveillance and Response, WHO/SEARO
- **Animal:** Dr. Dewan Sibartie, Chief Technical Adviser, FAO Country Office, Bangladesh
11:15-13.00  **Country Situation Review:**

- **India:**
  - Animal: Dr A. B. Negi, Department of Animal Husbandry, India (15 minutes)
  - Human: Dr Shashi Khare, NICD, India and Dr AC Mishra, NIV, Pune, India (15 minutes)

- **Bangladesh:**
  - Animal: Dr. M Salehuddin Khan, CVO, Bangladesh (15 min)
  - Human: Prof. Mahmudur Rahman, Director, IEDCR, Bangladesh (15 min)

- **Discussion:** 45 minutes

**Session: Afternoon**

**Chairperson:** Joint Secretary (WHO & PH), Ministry of Health and Family Welfare, Bangladesh  
**Co-Chairperson:** Joint Director, National Institute of Communicable Diseases, India

14.00-15.00  **Review of AI Response Strategies:**

- Experience from Thailand, Dr. Supamit Chunsuttiwat, MOPH (20 min)
- Experiences from Indonesia, Dr. Wilfred Purba, MOH (20 min)
- Discussion: (20 min)

15:00-15:40  **Health Care Facility Preparedness**

- Dr. Chariya Sangsajja, MOPH, Thailand (20 min)
- Discussion: (20 min)

16:00-17:00  **Round Table Discussion 1 : Cross- Border issue**

- Moderated by Mr. Vineet Chawdhry, Joint Secretary, MOHFW, India
- Identify three potential issues / Questions
  - Information sharing
  - SOP for measures at Port of Entry
  - Containment measures across borders

19:00  Reception at Sonargaon: Jointly by MoH&FW Bangladesh and WHO
Day 2 - Thursday, 28 August 2008

Session: Morning

Chairperson: Joint Secretary, MOHFW, India

Co-Chairperson: Director, Institute of Epidemiology, Disease Control and Research, Bangladesh

09:00- 10:45 Round Table Discussion 2: Surveillance Capacity and Response

- Dr. Be-Nazir Ahmed, PSO, IEDCR, Bangladesh (15 min)
- Dr. P. Ravindran, Director, EMR, MOHFW, India (15 min)
- Discussion: (1 hr 15 min)

11:15-13:00 Round Table Discussion 3: Rapid Containment at Border Area

- Dr. Khanchit Limpakarnjanarat, SEARO (15 min)
- Discussion: (60 min)

Session: Afternoon

Chairperson: Director General of Health Services, Bangladesh

Co-Chairperson: Director, National Institute of Virology, India

14.00-16:00 Development of Action Plan

- Joint Action Plan 2008-2009
- Adaptation of recommendations

16:30-17:00 Closing Session:

- Remarks by:
  - WHO Representative to Bangladesh
  - Head of Delegation-India
  - Director-General, Department of Livestock Services, Bangladesh
  - Additional Secretary, Ministry of Health and Family Welfare, Bangladesh
- Chairperson: Director-General of Health Services, Bangladesh
Annex 2

List of participants

**Bangladesh**

- **Professor MA Faiz**
  Director General
  DGHS, Bangladesh

- **Mr Ujjwal Bikash Dutta**, Joint secretary (PH & WHO)
  MoHFW, Bangladesh

- **Md Abdur Rashid**
  Joint secretary, MOFL, Bangladesh

- **Mr. Mohammad Sarwar Mahmood**
  Director, (SAI) Ministry of Foreign Affairs

- **Mr. Sunil Chandra Ghosh**
  Director General
  Department of Livestock Services
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- **Dr Mohammad Salehuddin Khan**
  Director, Admin & Animal Health
  Department of Livestock
  MOFL, Bangladesh

- **Professor Moazzem Hossain**
  Director, Disease Control
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- **Professor Mahmudur Rahman**
  Director, IEDCR
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- **Dr Be-Nazir Ahmed**
  Principal Scientific Officer, IEDCR, Bangladesh

- **Dr. Md. Jahangir Alam Khan**
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Report of the High-level Consultation

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Annex 3

Recommendations

The meeting took note of the agreement reached on June 25, 2008 between the Government of India and Government of Bangladesh regarding cooperation between the two countries on avian influenza in poultry.

Coordination mechanism

Both countries will designate focal points (preferably IHR focal point) to exchange information related to avian influenza (AI) and emerging infectious diseases (EID); information sharing between focal points on a regular basis.

Surveillance issues

- Share experiences on influenza surveillance
- Reciprocate good surveillance practices of other country
- Establish cross-border surveillance and, for such purpose, harmonize protocols for surveillance and rumour verification
- Harmonize outbreak investigation protocols to respond to animal and human AI outbreaks
- Capacity building
- Field epidemiology
- Laboratory issues

Cross-border/point of entry issues

- Explore the existing legal and institutional framework related to cross-border issue (ports- sea, land, air) especially in the context of sanitary and phytosanitary (SPS) measures and IHR;
Application of sanitary and phytosanitary measures at points of entry;

Implement cross-border health care and patient’s rights (Ref-Articles # 19 to 22 of IHR 2005);

Develop a Joint Rapid Containment Plan for border areas.

Logistics

Explore the possibilities of maintaining a buffer stock of antivirals and Personal Protective Equipment to help each other in a public health and animal health emergency.

Risk communication

Share communication materials and strategies developed by either country.

Clinical management of AI cases

Share experiences on clinical management of human avian influenza.

Resource mobilization

Efforts to be undertaken by both countries for resource mobilization.
To strengthen cooperation for combating avian and pandemic influenza a “High-level Consultation on Avian Influenza in Bangladesh and India” was held at Dhaka, Bangladesh on 27-28 August 2008. The situation in the Region and in both countries was presented at the consultation. The response strategies of Thailand and Indonesia with health care facility preparedness in Thailand were shared. A round table discussion was held on: Cross-border issues, ‘Surveillance capacity and response’, and Rapid containment at border areas. Joint recommendations were issued at the concluding session of the consultation.

Avian Influenza in Bangladesh and India

Report of the High-level Consultation
27-28 August 2008, Dhaka, Bangladesh