

Reducing the Risks of Avian Influenza and the Threat of a Human Influenza Pandemic

The threat of a human influenza (flu) pandemic linked to the H5N1 avian flu virus is significant, according to the World Health Organization (WHO). H5N1 infection is now endemic in birds in several ADB member countries; and human cases have also been confirmed in 11 countries (Azerbaijan, Cambodia, People’s Republic of China, Djibouti, Egypt, Indonesia, Iraq, Nigeria, Thailand, Turkey, and Viet Nam), linked to direct contact with diseased or dead poultry/birds, according to WHO.

Although human cases are rare and the virus does not transmit easily from birds to humans, WHO recommends control of the avian flu, and increased preparedness for a possible human influenza pandemic.

ADB is committed to ensuring the health and safety of its staff by keeping them well informed about avian flu, and implementing preventive measures as recommended by health experts to reduce the risks of human infection.

ADB has a role to play in supporting efforts to control avian flu in the region and to increase preparedness to respond to a human influenza pandemic. A two-pronged strategy in the health sector includes the need to address emergency needs at the country level, and help strengthen disease surveillance and response preparedness at the country and regional levels.

Why be Concerned

A human influenza pandemic would have major economic and social costs for the region and the world. If the H5N1 bird flu virus mutates into a human virus, a human influenza pandemic could start and kill millions of people. Despite the availability of antibiotics and antiviral drugs today, WHO and international experts estimate that a pandemic would likely result in at least 2 million to 8 million deaths. In 1918–1919, the “Spanish Flu” pandemic caused about 40 million to 50 million deaths.

Global traffic, supply of antiviral drugs and antibiotics, rapid development of an effective vaccine, and provision of adequate medical services

by overwhelmed health workers and health facilities are some of the major concerns that need to be addressed should a human influenza pandemic occur.

WHO recommends that all countries stockpile on the antiviral drug Tamiflu to cover at least 30% of their populations. Some governments worldwide and most international organizations have begun to stock Tamiflu, but the Philippines has been unable to do so because of cost constraints.

Institutional Response

ADB is tackling the problem on two fronts: operational and institutional. The Avian Flu Task Force developed ADB’s response to avian and human flu at the country and regional levels. ADB’s

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Avian Influenza

Cause

Viruses that normally infect only birds (chicken, ducks, geese, quail, and wild birds) and, less commonly, pigs and other mammals.

Symptoms in humans

Fever, headache, cough, muscle pain, eye infections, pneumonia, and severe respiratory diseases such as acute respiratory distress

Forms

- no symptoms at all in some species such as domestic ducks
- mild illness, which might be barely noticed
- highly pathogenic avian influenza, which is extremely contagious and rapidly fatal for birds

Modes of transmission

- among birds
- close contact of people with sick birds or their feces

Prevention

- Avoid farms with infected poultry.



PHOTO COURTESY OF FAO

A health inspector uses a mask and gloves as a preventive measure against avian flu in a random check of birds being sold in a market.

- Avoid contact with contaminated surface or animal secretions.
- Cook meat and other poultry products thoroughly.
- Observe proper hygiene.

Treatment

Tamiflu is a medicine to treat flu by attacking the influenza virus and preventing it from spreading inside the body.

Vaccine

Vaccination for the seasonal human influenza is widely available but no human vaccine for the avian flu exists. Developments are under way.

operational response is now coordinated by the Avian Influenza Secretariat, in the Regional and Sustainable Development Department, under the guidance of a Steering Committee at the Director General's level. On the other hand, the institutional planning team, the Avian Flu Coordinating

Office under the Office of the Vice President (Finance and Administration) will coordinate the Emergency Management Team (EMT) institutional response to avian flu at headquarters and in the field offices. Close liaison between these two bodies has been assured by including key members of the Task Force in the EMT.

Reminder to All Travelers

(Adapted from the US Centers for Disease Control and Prevention)

During Travel

- Avoid all direct contact with poultry, including touching well-appearing, sick, or dead chickens and ducks. Avoid places, such as poultry farms and bird markets, where live poultry are raised or kept. Avoid handling surfaces contaminated with poultry feces or secretions.
- As with other infectious diseases, one of the most important preventive practices is careful and frequent hand washing. Cleaning your hands often, using soap and water (or waterless alcohol-based hand rubs when soap is not available and hands are not visibly soiled), removes potentially infectious material from your skin and helps prevent disease transmission.
- Influenza viruses are destroyed by heat; therefore, as a precaution, all foods from poultry, including eggs and poultry blood, should be thoroughly cooked.
- If you become sick with symptoms such as a fever, difficulty in breathing, or cough, seek medical attention as soon as possible. In severe cases, call International SOS.

After Your Return

- Monitor your health for 10 days.
- If you become ill with fever and develop a cough or difficulty in breathing, or if you develop any illness during this 10-day period, consult a doctor and report the following:
 - your symptoms,
 - where you traveled, and
 - if you have had direct poultry/birds contact or contact with a known or suspected human case of influenza A (H5N1) in an H5N1-affected country.

For more information, contact François Ausseil, +63 2 632 4024, at the Medical Clinic.

Read <http://avianflu> for ADB's emergency management plan for a human influenza pandemic and ADB's operational response.

For emergencies, call +63 2 632 5220.

Emergency Management Plan

As a result of EMT meetings from April 2005 to the present, a detailed emergency management plan has been prepared and approved by Management. The plan addresses several important issues such as:

- general pandemic background information;
- guiding principles that ADB will apply in dealing with a potential pandemic;
- key planning assumptions;
- organizational structures necessary to efficiently and effectively manage a potential pandemic and to interact with other international agencies;
- actions ADB has taken in preparing itself to manage the threat of a human pandemic;
- critical business functions that must be maintained throughout any pandemic and the staff necessary to fulfill these functions;
- important policy considerations dealing with isolation, quarantine, relocation, travel, procurement, and access to headquarters for ADB staff, dependents, consultants, and contractors;
- field office response plans for seven different scenarios related to a potential pandemic;
- guidelines for distributing ADB's stocks of the antiviral drug Tamiflu;
- frequently asked questions on medical issues; and
- health and travel advice.

For details, visit <http://avianflu>.

Facts and Figures on Avian Flu

- **Influenza.** Otherwise called flu; is caused by a virus that mainly attacks a person's respiratory tract (lungs, nose, throat, bronchi).
- **Avian influenza or bird flu.** Flu that is caused by viruses that normally infect only birds. The virus is found in droppings, respiratory secretions, and blood of infected birds.
- **Human influenza.** Flu caused by viruses that afflict persons. The regular seasonal flu (vaccine available) can occur, but human beings can also get accidentally infected with the avian flu virus (no human vaccine available yet). Most infections occurred among people with backyard poultry, affecting particularly those who have slaughtered chickens. In many places, women take care of backyard poultry and are particularly at risk.
- **Epidemic.** The annual epidemics (seasonal flu) are due to minor changes in the virus, which allow it to escape the immunity that humans have

developed after previous infections or vaccinations.

- **Pandemic.** When a major change occurs in the virus, no one will have immunity against this new virus. A global outbreak of the disease, called a pandemic, will likely occur if the currently circulating avian flu virus acquires (through mutation or antigenic shift) the capacity to spread from person-to-person.

- **Morbidity and Mortality.** As of 6 February 2007, laboratory-confirmed 272 human cases of avian flu (H5N1), with 166 human deaths.

- **Countries with reported outbreaks of H5N1 avian flu in birds.** Afghanistan, Albania, Austria, Azerbaijan, Bosnia and Herzegovina, Bulgaria, Cambodia, Cameroon, People's Republic of China (including Hong Kong), Croatia, Djibouti, Egypt, France, Georgia, Germany, Greece, Hungary, India, Indonesia, Iran, Iraq, Is-

rael, Italy, Japan, Kazakhstan, Republic of Korea, Lao People's Democratic Republic, Malaysia, Mongolia, Myanmar, Niger, Nigeria, Pakistan, Poland, Romania, Russia, Serbia and Montenegro, Slovak Republic, Slovenia, Sweden, Switzerland, Thailand, Turkey, Ukraine, and Viet Nam

- **Countries with confirmed human cases of H5N1 avian flu.** Since the beginning of the East Asian outbreaks in December 2003, the cumulative number of laboratory-confirmed human cases of avian flu (H5N1) as of 6 February 2007 totaled 272, including 166 deaths, according to WHO. The breakdown is as follows: Azerbaijan (8 cases, 5 deaths), Cambodia (6 cases, 6 deaths); People's Republic of China (22 cases, 14 deaths); Djibouti (1 case, no deaths); Egypt (20 cases, 12 deaths); Indonesia (81 cases, 63 deaths); Iraq (3 cases, 2 deaths); Nigeria (1 case, 1 death); Thailand (25 cases, 17 deaths); Turkey (12 cases, 4 deaths); and Viet Nam (93 cases, 42 deaths).

ADB's Operational Response in Preventing Avian Flu

Recognizing that H5N1 avian flu virus poses a significant threat to human health and economic activity in the Asia and Pacific region, ADB is working closely with its partners—and in particular with the Association of Southeast Asian Nations (ASEAN), United Nations Food and Agriculture Organization (FAO), and World Health Organization (WHO)—to help developing member countries (DMCs) respond to the threat.

ADB has pledged up to \$470 million in funds to fight bird flu, including up to \$300 million in loans and \$70 million in grants for new projects. If requested, ADB could also consider making available additional uncommitted loan funds in case of a pandemic.

In this effort, ADB can leverage on its experiences in working with countries in the region through multisector approaches, design of complex projects, and support to member countries during the severe acute respiratory syndrome (SARS) epidemic in 2003.

Operational Highlights

■ **6–8 December 2006:** ADB participated in the 4th International Conference on Avian Influenza in Bamako, Mali (Africa).

■ **5–6 December 2006:** ADB organized in ADB headquarters a joint review of its avian flu-related activities in Asia and the Pacific, with the participation of the ASEAN Secretariat, FAO, WHO, and other regional partners. The meeting assessed the ADB Avian Influenza Regional Project's contribution to regional and global efforts to fight avian influenza and discussed how to improve ADB's assistance to the region.

■ **5 December 2006:** The international effort against avian influenza requires innovative approaches that engage all stakeholders, ADB Vice-President Ursula Schaefer-Preuss said at the opening of the Joint Review Meeting on ADB's Prevention and Control of Avian Influenza in Asia and the Pacific Project.

■ **27 November–1 December 2006:** With ADB financial support, WHO organized in Jakarta the first International Training Workshop for Rapid Response and Containment of Potential Pandemic Influenza, for senior government officials. The objective is to prevent or delay a human influenza pandemic through rapid identification and response to a human influenza outbreak due to H5N1 or another new flu virus, to contain the outbreak at its source when it first erupts.

■ **12 October 2006:** Jacques Jeugmans, Practice Leader (Health), briefed Indonesia's press on ADB's support to member countries, including Indonesia, to respond to avian flu. The briefing underscored the importance of preparedness and strengthened health systems, better communi-

cation and information of persons at higher risk, and good coordination between government and donors. As of October 2006, Indonesia recorded 52 human deaths from avian flu, the highest in the world. (See table for latest figures).

■ **10–11 October 2006:** With ADB financial support, the ASEAN Secretariat and the World Organisation for Animal Health (OIE) organized in Jakarta a workshop for senior official of ASEAN Ministries of Agriculture to develop a model avian influenza outbreak response system to serve as a reference for ASEAN countries in developing country-specific systems in animal health. The ASEAN Secretariat is a partner agency in ADB's Regional Project Prevention and Control of Avian Influenza.

■ **4 October 2006:** A summit of Philippine municipal mayors was held in Manila to help prepare local governments against the threat posed by avian influenza and other emerging infections.

The summit is the culminating activity of an ADB-financed technical assistance grant to support surveillance, prevention, and control of emerging infectious diseases, including SARS and avian flu.

■ **10 August 2006:** ADB donated Tamiflu tablets (1,103 treatments) to Indonesia's Ministry of Health to help combat avian flu. Indonesia had then recorded 44 deaths from avian flu, according to WHO. In August also, ADB channeled through WHO \$1.0 million emergency assistance from the Avian Influenza Regional Project Emergency Fund to Myanmar to help the country fight outbreaks of avian influenza threatening the country and the region.

■ **12 July 2006:** ADB announced it has disbursed more than \$11 million to partner agencies—ASEAN, FAO, and WHO—to counter the immediate threat posed by avian influenza in the Asia and Pacific region.

CONFIRMED HUMAN CASES OF AVIAN INFLUENZA A (H5N1)

From 2003 to 6 February 2007

	Cases	Deaths
Azerbaijan	8	5
Cambodia	6	6
China, People's Rep. of	22	14
Djibouti	1	0
Egypt	20	12
Indonesia	81	63
Iraq	3	2
Nigeria	1	1
Thailand	25	17
Turkey	12	4
Viet Nam	93	42
Total	272	166

SOURCE: WHO

Pandemic Influenza: 10 Things to Know

1. Pandemic influenza is different from avian influenza.
2. Influenza pandemics are recurring events.
3. The world may be on the brink of another pandemic.
4. The next influenza pandemic may be due to H5N1 avian influenza virus, but may also be caused by a totally different virus.
5. Widespread illness will occur.
6. Medical supplies will be inadequate.
7. Large numbers of deaths will occur.
8. Economic and social disruption will be great.
9. Every country must be prepared.
10. WHO will alert the world when the pandemic threat increases.



PHOTO COURTESY OF FAO

For more details, see www.who.int/csr/disease/influenza/pandemic10things/en/index.html

References on Avian Flu

Asian Development Bank

<http://avianflu>
www.adb.org/BirdFlu/

World Health Organization

www.who.int/csr/disease/avian_influenza/en/

Centers for Disease Control and Prevention

www.cdc.gov/flu/avian/index.htm

International ISOS

www.internationalsos.com/members_home/login/login.cfm

Food and Agriculture Organization

www.fao.org/ag/againfo/subjects/en/health/diseases-cards/special_avian.html

Center for Infectious Disease Research and Policy

www.cidrap.umn.edu/

For Information

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■ **12–13 June 2006:** A 2-day Central Asia Regional Conference on Avian Influenza Control and Human Influenza Pandemic Preparedness and Response, cosponsored by ADB, was held in Almaty, Kazakhstan. ADB co-chaired the donors' coordination meeting that took place during the conference.

Senior government officials from human and animal health discussed with experts from technical and development agencies issues on regional collaboration, preparedness, and contingency planning for avian influenza and emerging diseases in Central Asian countries, as well as Afghanistan, People's Republic of China, Mongolia, and Russian Federation.

■ **12 April 2006:** President Kuroda and Wilfrido Villacorta, then Deputy Secretary-General of the ASEAN, signed a grant agreement as part of a project for the prevention and control of avian influenza in Asia and the Pacific. WHO and FAO also signed a similar agreement in the following weeks.

■ **7 April 2006:** ADB hosted a meeting of regional partners to discuss regional coordination to meet the threat posed by avian influenza in Asia and the Pacific.

■ **March 2006:** ADB approved a \$38 million grant regional project to strengthen regional capacity and regional collaboration to fight avian flu and the risk of a human influenza pandemic in Asia and the Pacific, in close coordination with ASEAN, FAO, and WHO. The Government of Japan contributed \$10 million. A \$14.5 million emergency fund for quick assistance to member countries was also included.

■ **March 2006:** About \$50,000 worth of equipment and supplies for detection, testing, and disinfection operations was delivered to Azerbaijan to support efforts to control recent outbreaks of bird flu.

■ **January 2006:** ADB approved a \$1.2 million grant for three countries. The regional technical assistance project will strengthen epidemiological surveillance and response systems to communicable and emerging diseases in Indonesia, Malaysia, and Philippines. Emergency assistance was also provided to Azerbaijan via ADB's resident mission to fight an outbreak of avian influenza in the country.

■ **November 2005:** A \$30 million regional project will reinforce communicable disease control in Cambodia, Lao People's Democratic Republic (Lao PDR), and Viet Nam. The project will tackle various endemic and emerging diseases, including avian flu within the Greater Mekong Subregion framework.

■ **4 October 2005:** An avian influenza seminar was organized at ADB headquarters for ADB personnel and their dependents. The guest speaker was Jean-Marc Olivé, WHO representative in the Philippines.

■ **August 2005:** A \$40 million health project in

Viet Nam was approved. The Preventive Health System Support Project, supported by a \$28.9 million loan and \$10.1 million grant, will help improve health prevention and upgrade medical laboratories essential for early identification and diagnosis of communicable diseases.

■ **Winter 2004:** ADB provided grants to Cambodia, Lao PDR, and Viet Nam for protective clothing, equipment, supplies, and other support for front line workers combating avian flu. Another \$6.1 million funding was reallocated from a Rural Health Project in Viet Nam for avian flu-related medical equipment.

■ **2003:** ADB approved a regional grant (with resources from ADB's Technical Assistance Special Fund, Japan Special Fund, and International Cooperation and Development Fund) to address the SARS outbreak and other emerging diseases (including, starting at the end of 2003, avian influenza). Part of the funds are used for capacity building in member countries, another part is used to support the regional offices of WHO (covering the Western Pacific and Southeast Asia) to help them provide emergency technical support to member countries.

Economic Impact of Avian Flu

An ADB study published in November 2005 calculated that the costs of an influenza pandemic to the region would amount to \$297 billion in one year, and the pandemic would throw the world into recession and reduce Asia's growth to near zero. This was based on WHO best-case estimates that about 2 million to 7 million people could die worldwide in an influenza pandemic.

A pandemic would reduce economic activities in Asia as consumers and investors in Asia and the rest of the world cut back in consumption and investment. Some countries would be harder hit than others. The most vulnerable economies are the most open and high-export economies, including Hong Kong, China; Malaysia; Singapore; and Thailand.

According to the ADB study model, in the case of an outbreak with an infection rate of 20% and a population mortality rate of 0.1% (3 million deaths), lasting two quarters, Asia would experience a demand shock of a 2.3 percentage point reduction in gross domestic product (GDP), equivalent to \$99 billion.

In the case of strong demand contraction for four quarters, the loss to Asia is estimated at \$283 billion, about 6.5 percentage points of GDP, leaving Asia's GDP growth at just 0.1%. In this case, world GDP would fall to -0.6% growth.

A pandemic will certainly increase poverty since many poor households will not be able to recover their former standard of living. Earning capacity will be reduced because of the loss of productive family members and possible sale of productive assets to pay for health care and burial costs. ■