



- Avian and Human Pandemic Influenzas Update -

The spread of avian influenza continues. To date, the virus has resulted in 208 human deaths and affected wild birds and poultry populations in **61 countries** (Figure 1) throughout Asia, Europe, the Middle East and Africa (Figure 2). Poultry deaths due to culling and disease stand at about 300 million. The disease is believed to be entrenched (or enzootic) in parts of Indonesia, Egypt, and Nigeria and possibly in parts of Bangladesh and China.

Recent Outbreaks. Increasing numbers of outbreaks of Highly Pathogenic Avian Influenza (HPAI) subtype H5N1 have been reported in the first half of 2007, reflecting the annual cyclical re-occurrence of the disease in animals between December and April since its first large-scale emergence at the end of 2003. In 2007, six additional countries were affected (Bangladesh, Benin, Ghana, Kuwait, Saudi Arabia, and Togo) and repeat outbreaks have been reported by Afghanistan, Cambodia, China, Czech Republic, France, Germany, Ghana, Hong Kong, Hungary, India, Indonesia, Japan, Lao PDR, Malaysia, Myanmar, Pakistan, the Republic of Korea, Russia, Thailand, Turkey, the United Kingdom, and Vietnam. It is expected that more outbreaks will follow, although their geographical distribution is largely unpredictable.

Human Cases. While there are definitely seasonal peaks and troughs in human infections, there have been cases recorded every month since November 2004. Human infections with the H5N1 virus continue to be extremely rare. To date, WHO

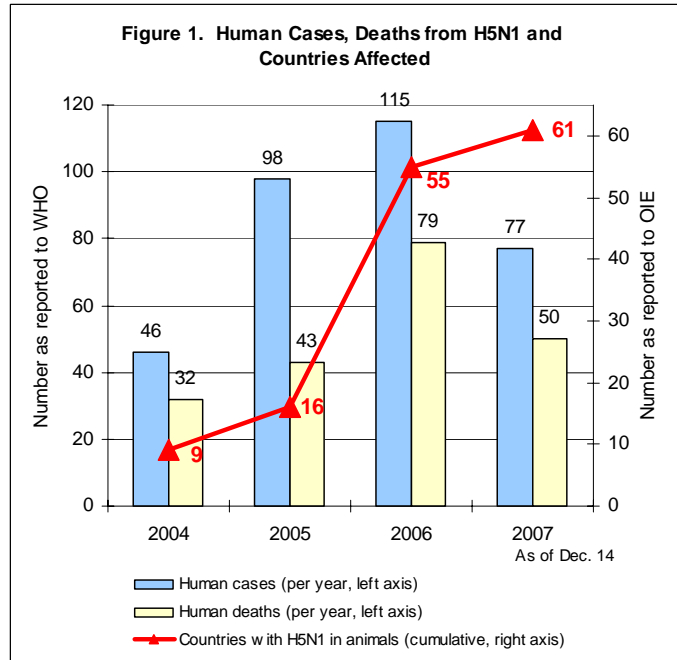
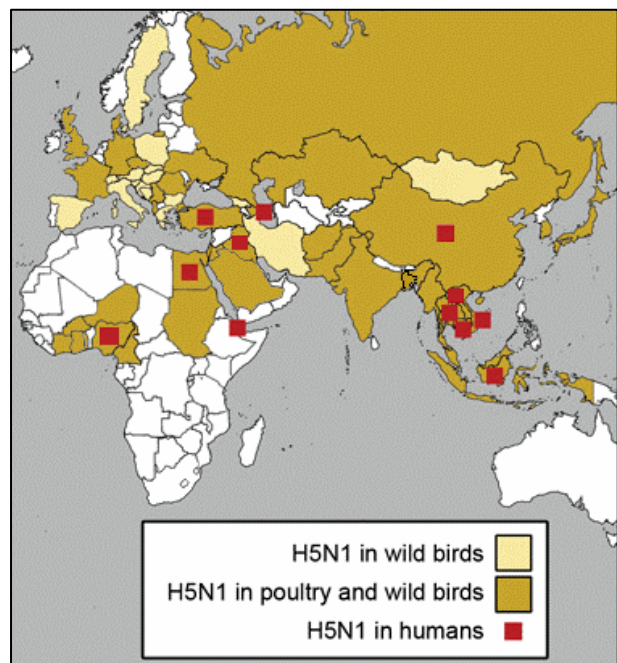


Figure 1. Countries Affected by H5N1 as of December 2007



confirmed **340 people in 13 countries have been infected** with the virus, of which **208 fatalities**, representing a case fatality ratio of over 60 percent. Most human cases have occurred in East Asia, where Indonesia recently overtook Vietnam as the country with the largest number of human infections (115) and continued to register the highest death toll (92).

Table 1. Confirmed Human Cases of Avian Influenza A/(H5N1) Reported to WHO 14 December 2007

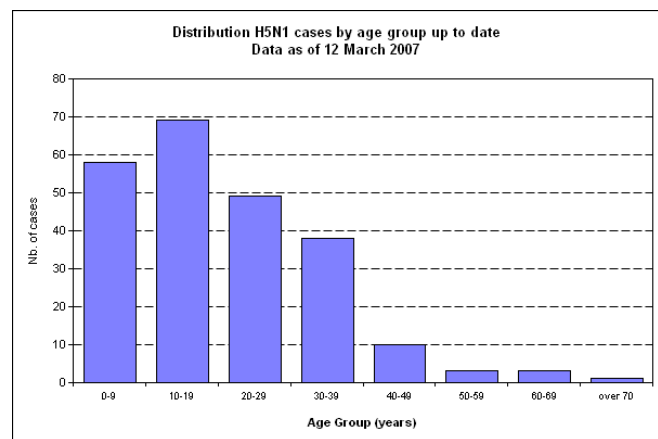
Country	2003		2004		2005		2006		2007		Total	
	cases	deaths	cases	deaths	cases	deaths	cases	deaths	cases	deaths	cases	deaths
Azerbaijan	0	0	0	0	0	0	8	5	0	0	8	5
Cambodia	0	0	0	0	4	4	2	2	1	1	7	7
China	1	1	0	0	8	5	13	8	5	3	27	17
Djibouti	0	0	0	0	0	0	1	0	0	0	1	0
Egypt	0	0	0	0	0	0	18	10	20	5	38	15
Indonesia	0	0	0	0	20	13	55	45	40	34	115	92
Iraq	0	0	0	0	0	0	3	2	0	0	3	2
Lao PDR	0	0	0	0	0	0	0	0	2	2	2	2
Myanmar	0	0	0	0	0	0	0	0	1	0	1	0
Nigeria	0	0	0	0	0	0	0	0	1	1	1	1
Thailand	0	0	17	12	5	2	3	3	0	0	25	17
Turkey	0	0	0	0	0	0	12	4	0	0	12	4
Vietnam	3	3	29	20	61	19	0	0	7	4	100	46
Total	4	4	46	32	98	43	115	79	77	50	340	208

Total number of cases includes number of deaths. WHO reports only laboratory-confirmed cases. All dates refer to onset of illness.

In Africa, Egypt has reported the largest number of human cases of H5N1 infection (38), most of whom were women. The most recent additions to the list of countries reporting H5N1 in humans were Nigeria, which confirmed its first human infection and death in January, Lao PDR, confirming its first human cases in February and March, and Myanmar, which confirmed a case in December. To date close exposure to diseased poultry remains the primary risk factor for infection, despite reports of a number of cluster cases, where human-to-human transmission has not been excluded. Recent reports from Egypt that the virus had become resistant to Tamiflu, did not reflect a mutation of the virus to a more virulent form.

A recent analysis of demographic data published by the WHO in the *Weekly Epidemiological Review*¹ shows that the virus affects predominantly young people born after 1968 (Figure 2). According to the study, the median age of laboratory

Figure 3



¹ World Health Organization, *Weekly Epidemiological Review*, No. 6, 2007, 82, 41–48 <http://www.who.int/wer>

confirmed human H5N1 influenza cases (up to November 24, 2006) was 18 years old, with 52 percent of cases younger than 20 years old and 89 percent under age 40. Men and women made up virtually an equal number of cases. The death rate was highest among cases aged 10 to 19; 76 percent of cases in that group died. Cases aged 50 and over had the lowest death rate (40 percent) followed by children under age five (44 percent) and children aged five to nine (49 percent). The review also found that the median interval from illness onset to hospitalization was four days, and the median duration from onset of symptoms to death was nine days. The relatively sample precludes the drawing of definite conclusions, although the analysis suggests that the higher number of cases among young people is not solely due to the age structure of the populations of affected countries.

High Pay-Off to Preparedness and Prevention. Coherent and sustained programs to control avian flu at its animal source and prepare for pandemic influenza will have a high payoff. The World Bank has estimated a severe pandemic could cost the global economy up to about 4.8 percent of world gross domestic product - around \$2 trillion of a world GDP of \$40 trillion.² The severe-case scenario was based on a 1 percent mortality rate – or about 70 million people. The impact of a pandemic on developing countries would be staggering, with higher mortality rates than in developed countries; preparedness will reduce these costs to lives and economies. An effective response to avian influenza would, moreover, provide a highly valuable precedent for tackling the threat of zoonotic diseases more broadly (more than 60 percent of human pathogens are zoonotic, 80 percent of animal pathogens are multi-host, and developing countries are the epicenters of most emerging zoonotic diseases).

World Bank Contributions to the Global Fight against Avian and Human Influenzas (AHI)

The World Bank is working closely with developing countries, donors, the UN System Influenza Coordinator (UNSIC, David Nabarro) and the international technical agencies—the World Health Organization (WHO), the Food and Agriculture Organization (FAO) and the World Organization for Animal Health (OIE)—in providing an integrated approach at the national, regional and international levels to the fight against HPAI and in preparing for a possible pandemic. While the international technical agencies are positioned to help address scientific and technical issues, the Bank has ongoing health and rural development programs in most developing countries, and has a comparative advantage in fostering a cross-sectoral approach to fighting avian flu.

Support for Integrated Country Programs. The Bank is currently working in more than 50 developing countries in all regions, providing advice on preparation of AHI projects for financing under its \$500 million Global Program for Avian Influenza (GPAI), which was endorsed by the Board in January 2006. By end-June 2007, **\$377 million** has been approved for **40 projects in 41 countries** (Table 2). Most of this financing was from IBRD/IDA, which provided **\$299 million to fully-developed integrated country programs in 24 countries**. Significant funding came from Bank-administered trust funds, including the Policy and Human Resources Development Fund (PHRD) provided by Japan, and the newly-established multidonor Avian and Human Influenza Facility (AHIF). AHIF received pledges of \$83 million from 9 donors, of which the European Commission is the largest. Twenty-five projects have already been approved for AHIF financing, totaling more than \$58 million, including for

² *Evaluating the Economic Consequences of Avian Influenza*, by Andrew Burns, Dominique van der Mensbrugge, Hans Timmer, June 2006, available at www.worldbank.org/avianflu.

integrated country programs in Egypt, Indonesia, Vietnam, and West Bank and Gaza. More than 20 countries have projects under preparation for financing from AHIF and IBRD/IDA.

Table 2. World Bank Operations – Avian and Human Pandemic Influenzas

Projects Approved up to June 30, 2007

Region	Country	Total Project		Funding Sources (US\$ millions)			
		Cost	Approval Date	IBRD	IDA	PHRD	AHIF
Africa	Liberia	0.09	28-Nov-06	-	-	-	0.09
	Malawi	1.00	16-Apr-07	-	-	-	1.00
	Mauritania	0.03	20-Feb-07	-	-	-	0.03
	Mozambique	0.10	7-Jun-07	-	-	-	0.10
	Nigeria	62.20	29-Mar-06	-	50.00	-	-
	Sierra Leone	0.09	29-Nov-06	-	-	-	0.09
	Uganda	0.10	26-Feb-07	-	-	-	0.10
	Zambia	1.00	26-Sep-07	-	-	-	1.00
East Asia & Pacific	Cambodia	5.00	5-Mar-07	-	-	3.00	2.00
	China	2.65	18-Oct-06	-	-	-	2.65
	Indonesia	15.00	15-Dec-06	-	-	5.00	10.00
	Lao PDR	13.56	29-Jun-06	-	4.00	2.00	2.00
	Myanmar	1.32	16-May-07	-	-	-	1.32
	Vietnam	6.20	3-Aug-04	-	5.00	-	-
	Vietnam	38.00	13-Mar-07	-	20.00	5.00	10.00
	Europe & Central Asia	Albania	6.10	27-Jun-06	-	5.00	0.80
Armenia		11.33	2-Jun-06	-	6.25	0.80	2.00
Azerbaijan		6.12	28-Mar-06	-	5.15	-	-
Bosnia-Herzegovina		6.40	20-Jun-07	-	5.00	-	-
Georgia		11.87	31-May-06	-	7.00	1.40	1.60
Kosovo		3.00	1-Feb-07	-	3.00	-	-
Kyrgyz Republic		9.00	9-Feb-06	-	4.00	1.00	-
Moldova		11.60	9-Jun-06	-	8.00	0.50	1.00
Romania		47.70	8-Sep-06	37.70	-	-	-
Tajikistan		6.80	29-Jun-06	-	5.00	-	1.50
Turkey	55.19	24-Apr-06	34.40	-	-	-	
Uzbekistan	3.21	2-May-07	-	-	-	2.96	
Latin America & Caribbean	Argentina	2.00	23-Jan-07	2.00	-	-	-
	Argentina, Bolivia, Brazil, Uruguay	0.50	22-Dec-06	-	-	-	0.50
	Uruguay	9.55	19-Dec-06	0.50	-	-	-
Middle East & North Africa	Djibouti	2.54	5-Jun-06	-	0.43	-	2.11
	Egypt	13.14	13-Jun-07	6.00	-	-	7.14
	Iran	6.10	29-Dec-06	6.10	-	-	-
	Middle East Regional	0.98	19-Dec-06	-	-	-	0.98
	West Bank and Gaza	13.00	7-Sep-06	10.00	-	-	3.00
	Yemen	0.06	5-Feb-07	-	-	-	0.06
South Asia	Afghanistan	13.00	11-Jan-07	-	8.00	-	5.00
	Bangladesh	16.00	28-Jun-07	-	16.00	-	-
	India	88.64	13-Feb-07	-	32.63	-	-
	Nepal	18.20	19-Jan-07	-	18.20	-	-
Total		508.35		96.70	202.65	19.50	58.22
Number of projects		40		7	18	9	25

Pipeline for fiscal 2008:

IBRD/IDA: Cambodia, Niger, Pakistan, Uganda.

AHIF/PHRD: Bangladesh, Bhutan, Cameroon, Colombia, Dominican Republic, Eritrea, Haiti, Honduras, Kyrgyz Republic, Lao PDR, Mongolia, Morocco, Paraguay, Peru, Republic of Congo, Sri Lanka, Syrian Arab Republic, Tunisia, Turkmenistan.

International Conferences and Monitoring of the Global Program. The World Bank monitors delivery of pledged assistance (Table 3). The international community has decided to organize regular ministerial meetings that review the adequacy of the international response and aim to keep attention on avian flu in the face of growing media neglect. These conferences follow on from the Washington (October 2005) meeting and include the Beijing (January 2006), Vienna (June 2006), Bamako (December 2006), and New Delhi (December 2007) conferences. The latest polling of donors and Bank assessment³ show that of the US\$2.3 billion pledged by the international community in Beijing and Bamako, **US\$1.7 billion** was already **committed** to specific programs, indicating a rapid initial response compared to other emergencies such as major natural disasters. About US\$1.3 billion of the pledges was in grants from bilateral donors and the European Commission; these have been nearly all committed, leaving only US\$57 million in grant funding available. The remaining assistance is from the multilateral development banks, largely in the form of loans.

Table 3. AHI Pledges, Commitments, and Disbursements as of June 30, 2007, \$ million

<i>Donors</i>	<i>Beijing Pledge (Jan.'06)</i>	<i>Bamako Increase (Dec.'06)</i>	<i>Cumulative Pledge</i>	<i>Commitments</i>	<i>Disbursements</i>	<i>% disbursed</i>	<i>Uncommitted</i>
	A	B	C=A+B	D	E	E/D	C-D
Australia	56	55	111	93	47	51%	18
Canada		87	87	91	40	44%	..
China	10		10	3	3	100%	7
France	31	10	41	45	26	59%	..
Germany	29	8	37	37	23	61%	0
Japan	155	67	222	232	232	100%	..
Netherlands	14	7	21	17	6	34%	4
Russia	24	8	32	32	20	63%	0
United Kingdom	36	18	55	51	29	56%	3
United States	334	100	434	433	375	86%	1
Other EU countries ²	31	11	41	36	30	85%	6
Other countries ³	23	4	27	23	20	88%	5
Subtotal bilateral donors	742	376	1,118	1,094	850	78%	42
European Commission	124	83	208	193	105	54%	15
AfDB	0	15	15	7	4	62%	9
AsDB	468		468	83	13	16%	385
World Bank	501		501	302	45	15%	199
Subtotal MDBs	969	15	984	392	63	16%	592
GRAND TOTAL	1,835	474	2,309	1,678	1,018	61%	649

Notes:

1. Donors' reports of amounts committed and disbursed from calendar year 2005 and to June 30, 2007. 'Bamako increase' includes new contributions and commitments in excess of pledged amounts as of December 2006.

Commitment: The result of an agreement between the donor and recipient for designated purposes; a commitment is a firm decision that prevents the use of allocated amount for other purposes.

Disbursement: Actual budget transfer or release of funds to the recipient for an intended purpose.

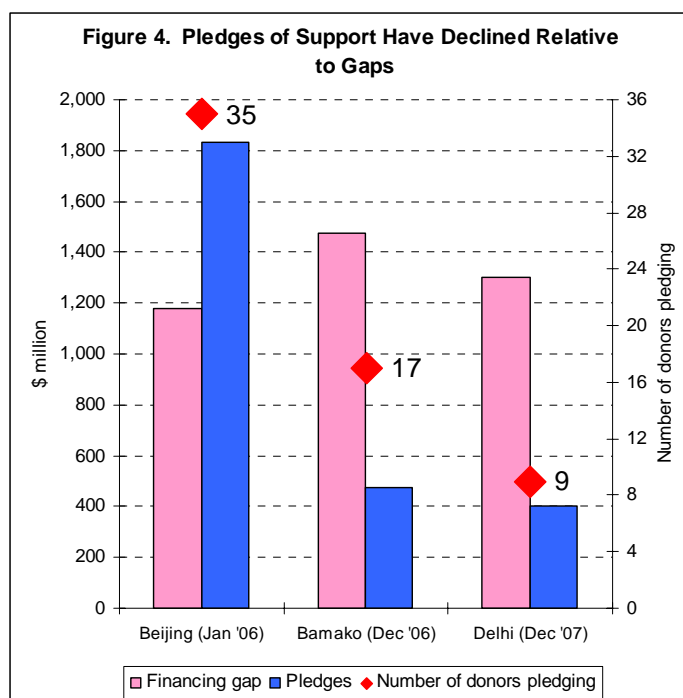
2. Austria, Belgium, Cyprus, Czech Republic, Estonia, Finland, Greece, Hungary (which has retracted its pledge due to lack of response from recipient country), Ireland, Italy, Luxembourg, Slovenia, Spain, and Sweden.

3. Iceland, Korea (Republic of), Norway, Saudi Arabia, Switzerland, Singapore, and Thailand.

³ UN System Influenza Coordinator & World Bank, *Responses to Avian Influenza and State of Pandemic Readiness, Third Global Progress Report*, December 2007.

Declining Donor Interest Threatens Sustainability of Response.

The World Bank has worked with countries, UNSIC, donors, and the international technical agencies to evaluate needs and gaps for the remainder of the period covered by the framework for the emergency response agreed at the Beijing and Bamako international conferences in 2006 (i.e., to end-2008). Programs to prevent and control avian flu have received declining support (Figure 3), although gaps have increased as the disease spread rapidly during 2006, including to countries in Africa, where veterinary and disease-surveillance capacities are particularly weak.



Substantial gaps remain for country-level needs, especially in Africa, the Middle East, and Asia. As the availability of grants is highly constrained, countries have become dependent on their own resources and on loans from the multilateral development banks to finance a large part of their avian and human influenza preparedness and control programs. (Table 4). A larger share of grants would be appropriate because control of avian influenza is a global public good.

Analytical Work to Support Global Response. The World Bank and UNSIC have

Table 4: Country-Level Financing Needs and Gaps by Region

\$ million, as of June 30, 2007

Region	Bamako Needs Estimate 2006-2008 ^{a/}	Government Contributions ^{a/}	Grants & In-kind ^{b/}	Loans ^{b/}	Financing Gap July 2007 - December 2008
	A.	B.	C.	D.	A.-B.-C.-D.
SUB-SAHARAN AFRICA	589	29	48	50	462
EAST ASIA & PACIFIC	935	298	227	69	341
EUROPE & CENTRAL ASIA	247	44	51	120	32
LATIN AMERICA & CARIBBEAN	15	2	10	2	1
MIDDLE EAST & N. AFRICA	233	102	18	23	90
SOUTH ASIA	149	28	13	75	34
ALL REGIONS	2,168	503	367	339	960
As % of needs	100%	23%	17%	16%	44%

Methodology as outlined in *AHI: Financing Needs and Gaps*, World Bank, January 2006.

^{a/} Data as presented by the World Bank at the Bamako Pledging Conference. Government Contributions are calculated using differing financing parameters for various country categories by income level. For Sub-Saharan Africa, needs estimates and government contributions are as presented in the ALive Paper *Avian Influenza Prevention and Control and Human Influenza Pandemic Preparedness in Africa: Assessment of Financing Needs and Gaps*.

^{b/} Data from donor-polling exercise.

jointly prepared three global progress reports to date. The latest report, based on data

from the national authorities of 146 countries, highlighted the improving capacity of health and veterinary systems to respond rapidly to avian flu outbreaks. The report also showed that large gaps in response capacity and pandemic preparedness persist, especially in low-income countries. For instance, while compensation schemes have been established, many are not yet operational. Pandemic preparedness is often limited to the health sector, neglecting the significant impact that a surge in illness and absenteeism will have on critical infrastructure, such as banking, power, public order, and transport. In addition to the progress report, the Bank has also prepared estimates of the economic costs of a pandemic and assessments of financing needs at the global, regional and country levels. Jointly with FAO, OIE and the International Food Policy Research Institute (IFPRI), the Bank produced a state-of-the-art reference document for any country considering a culling and compensation program: *Enhancing Control of Highly Pathogenic Avian Influenza in Developing Countries through Compensation: Issues and Good Practice*.

Follow-up to the New Delhi Ministerial Conference. The December 2007 summit which was organized by the Government of India and was attended by 111 countries and 29 organizations, reviewed the third global progress report and, in line with its findings and conclusions, recommended greater attention to pandemic preparedness and to sustaining the response at the national and global levels and broadening its scope to better tackle emerging zoonotic diseases with pandemic potential. Based on discussions at the conference, the Government of India presented a Vision and a Road Map to guide actions in 2008. The conference also identified poultry biosecurity as a key issue, and the Bank is working jointly with FAO and other partners to identify sound policy options in this contentious area. The World Bank and UNSIC have committed to work with the international technical agencies (FAO, WHO, OIE) and other partners to set out a medium-term strategy for the coming three-to-five years, for review at the next ministerial conference on avian and pandemic influenza, which the Government of Egypt has offered to organize in Cairo in late October 2007.

Through the **Global Development Learning Network (GDLN)**, the World Bank is hosting a series of seminars to exchange experiences, good practices, and knowledge and lessons learned on issues related to avian and human influenzas. Four seminars have been held to date: on “The Importance of Integrated Country Programs in the Fight against AHI” in July 2006, on “National Communications Planning” in September 2006, on “Compensation Policies: Issues and Good Practice” in February 2007, and on “Poultry Vaccination” in October 2007. Another seminar on poultry vaccination is planned for February 2008. These seminars bring together senior ministry officials and technical experts from developing countries, the UN, WHO, US Centers for Disease Control and Prevention (CDC), UNICEF, the European Commission, FAO, OIE, US Department of Health and Human Services, the World Bank, the ASEAN Secretariat, and other partners. This interactive information exchange forms a central element of the ability of the international community to prepare an adequate response to the multiple threats arising from outbreaks of avian influenza and the potential human flu pandemic.

For more information on the World Bank and avian flu, please visit our website at www.worldbank.org/avianflu

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