Progress Report

Program Number: 39662
Loan Number: G-0041/RETA 6313
May 2008

REG: Prevention and Control of Avian Influenza in Asia and the Pacific

and

ADB Activities Related to Avian Influenza

PROGRESS REPORT 6
October 2007 – April 2008

Asian Development Bank

ABBREVIATIONS

ADB	–	Asian Development Bank
ADF	–	Asian Development Fund
AHI	–	Avian and Human Influenza
AHIF	–	Avian and Human Influenza Facility
AI	–	Avian Influenza
AIREF	–	Avian Influenza Response Facility
APEC	–	Asia Pacific Economic Cooperation
APSED	–	Asia Pacific Strategy for Emerging Diseases
ASEAN	–	Association of Southeast Asian Nations
AusAID	–	Australian Agency for International Development
CAREC	–	Central Asia Regional Economic Cooperation
CDC	–	communicable diseases control
CIDA	–	Canadian International Development Agency
DMC	–	developing member country
EC	–	European Commission
ESR	–	Epidemiological Surveillance and Response
FAO	–	Food and Agriculture Organization of the United Nations
GF-TADS	–	Global Framework for Transboundary Animal Diseases
GPAI	–	Global Program for Avian Influenza
HPAI	–	highly pathogenic avian influenza
ICDF	–	International Cooperation and Development Fund
IHR-2005	–	International Health Regulations approved in 2005
JSF	–	Japan Special Fund
Lao PDR	–	Lao People's Democratic Republic
OIE	–	World Organization for Animal Health
RETA	–	Regional Technical Assistance
SARS	–	severe acute respiratory syndrome
SEARO	–	WHO South-East Asia Regional Office
SC	–	Project Steering Committee
TASF	–	Technical Assistance Special Fund
UNSIC	–	United Nations System Influenza Coordination
USAID	–	United States Agency for International Development
WHO	–	World Health Organization
WPRO	–	WHO Western Pacific Regional Office

EXECUTIVE SUMMARY

H5N1 avian influenza (AI) is still a clear and present danger, and Asia is still considered the epicenter of AI. AI outbreaks continue to cause human deaths and significant economic losses, mainly in Asia, affecting the livelihood of the rural poor who are most at risk. The most significant threat remains the possible occurrence of a worldwide influenza pandemic if the virus mutates and becomes easily transmissible among humans. The increased speed and volume of cross-border trade and travel led by growing economic and social integration in the region are also facilitating the spread of communicable diseases including AI. As communicable diseases do not respect borders, the problem requires a coordinated response at all levels: global, regional, and national, as well as a health systems strengthening approach to help prevent and control not only AI but other communicable diseases as well.[1]

The activities of Asian Development Bank (ADB) at the regional level fit within a framework discussed at a high-level global meeting in Beijing in January 2006, where the international community pledged the initial $1.9 billion for the fight against AI. ADB's commitment complements activities of other partners, including the World Bank, at the country level. ADB took the initiative at the regional level with a $42.2 million Regional Grant Project approved March 2006 (including $10 million from Japan and $4.2 million from Canada) covering all of ADB's developing member countries (DMC) and implemented in collaboration with the Association of Southeast Asian Nations (ASEAN) Secretariat, the United Nations Food and Agriculture Organization (FAO) and the World Health Organization (WHO). Other ADB regional projects related to AI are described in appendix 2. In addition to ongoing Project activities, the following significant AI-related activities led or financed by ADB took place from October to April 2008:

- On November 2007 a training workshop organized by FAO on the cross border epidemiology of animal infectious diseases was held in Ankara, Turkey with the participation of all Central Asian Regional Economic Cooperation (CAREC) member countries. Also a sub-regional meeting of countries at risk of AI in South Asia was held on March 2008 in Katmandu, with representatives from Bangladesh, Bhutan, India, Myanmar and Nepal and other development partners.

- A consortium of four international nongovernment organizations (NGOs) is implementing community based cross-border activities in Cambodia, Indonesia, Lao PDR, Myanmar, Philippines, Thailand and Viet Nam, including the development of a toolkit for NGOs serving cross-border communities in the region. Lessons learned were presented at a Regional Community-Based Avian and Human Influenza Management Practitioners' Workshop in March 2008 in Bangkok.

- The ASEAN Secretariat, in collaboration with FAO, the World Organization for Animal Health (OIE) and the Directorate General of Livestock Services, Indonesian Ministry of Agriculture, organized the fourth workshop in a series to finalize the ASEAN Regional Strategy for the Progressive Control and Eradication of Highly Pathogenic Avian Influenza (HPAI) [2008-2010] in Bali on February 2008. At the meeting representatives of project implementing partners and DMCs mentioned that the ADB AI project has demonstrably served as a catalyst for closer regional collaboration and enhanced capacity-building in the region.

[1] The current situation of AI as of end of April 2008 (the period covered by the report) is described in Chapter II. Appendix 3 mentions significant events that happened in May 2008.

I. INTRODUCTION

1. On 14 March 2006, ADB's Board of Directors approved the Regional *Prevention and Control of Avian Influenza in Asia and the Pacific* Project financed by Grant 041/RETA 6313. The Board requested staff to provide regular progress reports on Project implementation, including an overview of the progress of regional and global efforts to counter AI. This report is the sixth Progress Report on AI covering activities from October to April 2008.

II. CURRENT STATUS OF AVIAN INFLUENZA

A. Epidemiology and Impact of H5N1 Avian Influenza[2]

2. Progress is being made in the global effort to prevent and control avian influenza since the beginning of the recorded epidemic in 2003 in Asia and its subsequent spread to the Middle East, Europe, and Africa. However, the disease continues to affect both animals and humans across the world, and especially so in the Asian region. Since 2003, the disease has spread to 60 countries according to the OIE[3]. Since December 2007, Bangladesh, Benin, China, Egypt, Germany, India, Indonesia, Iran, Israel, Myanmar, Poland, Russia, South Korea, Ukraine, Turkey and Viet Nam have confirmed new H5N1 outbreaks in poultry stocks.[4] Except for a few cases in wild birds in China (including Hong Kong), Japan, Poland and United Kingdom, most of the confirmed outbreaks occurred in domestic poultry, including chickens, turkeys, geese and ducks. Hundreds of millions of poultry have been killed either directly by the disease or by authorities culling the poultry to prevent further spread. So far, Indonesia, Thailand, and Viet Nam have reported the greatest number of outbreaks among poultry to the Food and Agriculture Organization (FAO). In Indonesia, the disease is considered entrenched,[5] with only 3 out of 33 provinces free from avian influenza. With most cases of the disease in both its animal and human forms occurring in Asia, the region is considered to be the epicenter of the epidemic and AI will likely be present in the region for years to come.

3. Human cases of AI are steadily increasing. According to WHO, as of 30 April 2008, 241 people have died out of a total of 382 infected (a global fatality rate of 63%). Nine countries in the region have confirmed human cases: Azerbaijan, Cambodia, the People's Republic of China, Indonesia, Lao PDR, Myanmar, Pakistan, Thailand, and Viet Nam.[6] Indonesia and Vietnam have the highest number of human cases and deaths in the world, with Indonesia having 108 deaths out of 133 cases (or a case fatality rate of 81%), and Vietnam with 52 deaths out of 106 cases (or a case fatality rate of 48%). It is likely that more cases are missed due to lack of reporting and poor surveillance. In the first three months of 2008 alone, 3 cases were detected in the People's Republic of China (all died), 15 cases in Indonesia (12 died) and 5 cases in Viet Nam (all died). Also, Myanmar had its first human case of AI in December 2007. The cases were predominantly among young people, less than 35 years old, living in rural areas, who had contact with dead or infected poultry.[7] The disease disproportionately affects the rural poor who keep backyard poultry as a way to supplement their income and provide food security. While there are seasonal highs and lows in the number of human infections, there

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[2] Different strains of avian influenza viruses are circulating, but WHO considers that the H5N1 strain is the most threatening one at this time to cause a new human influenza pandemic. This report covers H5N1 AI.
[3] Known under its French acronym for Office International des Epizooties
[4] http://www.fao.org/newsroom/en/news/2008/1000775/index.html
[5] http://www.cidrap.umn.edu/cidrap/content/influenza/avianflu/news/jun2707fao.html
[6] WHO confirmed in May the first human case in Bangladesh. See appendix 3
[7] http://www.who.int/csr/disease/avian_influenza/Timeline_080418.pdf

have been cases recorded every month since November 2004. Table 1 gives a summary of all laboratory-confirmed human cases of AI reported to WHO as of 30 April 2008.

Table 1: Cumulative Number of Confirmed Human Cases of Avian Influenza A/(H5N1) Reported to WHO (as of 30 April 2008)

Country	2003		2004		2005		2006		2007		2008		Total	
	cases	deaths	cases	deaths	cases	deaths	cases	deaths	cases	deaths	cases	deaths	cases	deaths
Azerbaijan	0	0	0	0	0	0	8	5	0	0	0	0	8	5
Cambodia	0	0	0	0	4	4	2	2	1	1	0	0	7	7
China	1	1	0	0	8	5	13	8	5	3	3	3	30	20
Djibouti	0	0	0	0	0	0	1	0	0	0	0	0	1	0
Egypt	0	0	0	0	0	0	18	10	25	9	7	3	50	22
Indonesia	0	0	0	0	20	13	55	45	42	37	16	13	133	108
Iraq	0	0	0	0	0	0	3	2	0	0	0	0	3	2
Lao PDR	0	0	0	0	0	0	0	0	2	2	0	0	2	2
Myanmar	0	0	0	0	0	0	0	0	1	0	0	0	1	0
Nigeria	0	0	0	0	0	0	0	0	1	1	0	0	1	1
Pakistan	0	0	0	0	0	0	0	0	3	1	0	0	3	1
Thailand	0	0	17	12	5	2	3	3	0	0	0	0	25	17
Turkey	0	0	0	0	0	0	12	4	0	0	0	0	12	4
Viet Nam	3	3	29	20	61	19	0	0	8	5	5	5	106	52
Total	4	4	46	32	98	43	115	79	88	59	28	22	382	241

Total number of cases includes number of deaths. WHO reports only laboratory-confirmed cases.
Source: http://www.who.int/csr/disease/avian_influenza/country/cases_table_2008_04_30/en/index.html last accessed on 27 May 2008

4. WHO considers the world historically closer to another human influenza pandemic[8] than at any other time since 1968, when the last pandemics occurred. The characteristics of H5N1, the avian influenza virus strain causing the present outbreaks, make it a likely candidate to cause an influenza pandemic. If H5N1 – or another influenza virus to which humans have no immunity – evolves into a form easily transmissible from human to human, the social and economic impact of an influenza pandemic is likely to be huge. In line with a November 2005 ADB study on the possible economic impact of an avian flu pandemic on Asia,[9] a September 2006 World Bank report concludes that a global influenza pandemic may cause losses of $1 trillion globally, including $99 billion to East Asia and the Pacific, and $37 billion to South Asia. Losses include those related to mortality, illness, and absenteeism; efforts to avoid infection affecting the demand side, such as reduction in air and land travel; and reduction in consumption of services such as dining, tourism, and retail shopping. The impact in developing countries would be more severe as higher levels of population density and poverty would multiply the shock in those countries.[10] With most of the victims among the rural poor, persistent

[8] A pandemic is an epidemic that spreads world-wide
[9] ADB. Bloom et al, November 2005. *Potential Economic Impact of an Avian Flu Pandemic on Asia.* ERD Policy Brief No.42. Manila
[10] Evaluating the Economic Consequences of Avian Influenza, A. Burns, D. van der Mensbrugghe, H. Timmer, September 2006, http://siteresources.worldbank.org/INTTOPAVIFLU/Resources/EvaluatingAIeconomics.pdf

outbreaks of AI have already had a significant impact on the populations affected, even without a pandemic, threatening both their lives and their livelihoods. Many experts now consider that the scattered distribution of the animal and human outbreaks across the region can be better attributed to illegal and improper trade of infected poultry rather than the transmission of the virus through migratory birds.[11]

5. Outbreaks of the animal form of the disease regularly occur in the region and spread rapidly. Recently there were major outbreaks of HPAI (the animal form of H5N1) in the Indian subcontinent. In the beginning of November 2007 outbreaks were reported around the city of Peshawar in the North West Frontier Province of Pakistan, spreading on to Sindh province near Karachi in February 2008, leading the Federal Government to regulate the working practices of 26,000 small poultry farms in the region. Human cases of AI were reported near Peshawar but no evidence of sustained human to human transmission was found, according to the WHO[12]. In January 2008 another major outbreak among poultry was reported in the West Bengal region of India, bordering Bangladesh. In India there were estimates of 3.5 million poultry culled despite the resistance of farmers who did not accept the low levels of compensation offered by the government complaining that 40 rupees (about $1) on offer for every bird culled was below market rates[13].The disease spread to 13 of West Bengal's 19 districts, and prompted a collapse of poultry and poultry product prices across the country and a ban on Indian poultry exports by at least eight countries.[14] Roughly 80 per cent of rural households in West Bengal keep hens and ducks in their backyards to supplement their incomes, a practice encouraged by the state government, which distributes millions of chicks to poor communities each year. In Bangladesh, which borders West Bengal, authorities have been struggling to contain AI outbreaks. Since Bangladesh's first bird flu outbreak in February last year, the disease has been detected in 29 out of the country's 64 districts, prompting authorities to slaughter at least 800,000 birds[15] forcing the closure of 40 percent of the nation's poultry farms and leaving half a million poultry workers jobless. In April 2008, HPAI swept through South Korea,[16] leading authorities to cull 6 million birds.

B. New Delhi Conference on AI

6. Representatives of 111 countries and 29 international organizations met in New Delhi, India from 4-6th December 2007 in the New Delhi International Ministerial Conference on Avian and Pandemic Influenza[17]. The meeting brought development partners together for the sixth time after the Washington, Geneva, Beijing, Vienna and Bamako Conferences. The aims of the Conference included reviewing global progress made and impact of efforts to control Avian and Human Influenza (AHI). The conference was organized and hosted by the Government of India with cooperation from the United States of America, the European Commission (EC) and International Organizations including the FAO, OIE, World Bank, United Nations Children's Emergency Fund and the UN System Influenza Coordinator for Avian and Human Influenza (UNSIC). Technical experts and Ministers of Health and Agriculture from several countries participated as well. ADB was represented by I. Bhushan and J. Jeugmans, co-Chairs of the Health Community of Practice. The Third Global Progress Report of the UN System and the World Bank on *Responses to Avian Influenza and State of Pandemic Readiness* was officially

[11] http://www.iht.com/articles/2007/02/12/news/flu.php
[12] http://www.who.int/csr/disease/avian_influenza/Timeline_080418.pdf
[13] http://www.reuters.com/article/latestCrisis/idUSSP72778
[14] http://www.ft.com/cms/s/0/aa91be2c-d458-11dc-a8c6-0000779fd2ac.html
[15] http://www.channelnewsasia.com/stories/afp_asiapacific/view/329571/1/.html
[16] http://www.reuters.com/article/healthNews/idUSSEO23154020080421
[17] www.delmincon.com

presented in the conference. The conference acknowledged the concept of "One World, One Health" that integrates animal health, human health and environmental health. Recommendations included investing in systems that prevent diseases at the animal and human interface, strengthening veterinary services, strengthening countries' capacity to enact rapid protocols for early-stage containment of influenza pandemics and enhancing implementation of the International Health Regulations (IHR 2005). The next high level global conference on AI will be held in October 2008 in Egypt.

C. Vaccine Development

7. Influenza viruses mutate rapidly and a critical step for assessing the risk of an influenza pandemic is to closely follow the evolution of the influenza viruses by rapidly analyzing the strains of the virus as they appear in new outbreaks. This is done by a network of WHO collaborating centers. Through WHO, seed viruses are provided free to private sector firms that produce influenza vaccines. In early 2007, however, the Indonesian health minister expressed dissatisfaction with a system that obliged WHO member states to share virus samples with WHO collaborating centers but which lacked mechanisms for equitable sharing of benefits, such as affordable influenza vaccines that would be derived from Indonesian virus samples. In breaking with the existing practice of freely sending influenza virus samples to these laboratories, the Indonesian government decided to withhold its human AI virus samples from the WHO collaborating centers pending a new global mechanism for virus sharing that had better terms for developing countries.[18] The Health Minister noted that while only 10 percent of the world's population lives in Europe and North America, that region holds 90 percent of the production capacity for influenza vaccines. To help developing countries develop manufacturing capability for pandemic vaccines, WHO on April 2007 announced the awarding of grants to Brazil, India, Indonesia, Mexico, Thailand, and Viet Nam of up to US$2.5 million to each country,[19] financed by an $8 million grant from Japan and a $10 million grant from the United States. The identification of possible beneficiary companies in Asia was facilitated by a vaccine production feasibility study financed under the ADB AI project.

D. Building up Countries' Health System Capacity

8. If vaccine production raises important questions, health systems' capacity to identify an emerging pandemic or another emerging disease and to deliver appropriate health services (including vaccine distribution) during a pandemic is also a major challenge. As highlighted both in the Third Global Progress Report on AI (released in December 2007 for the Delhi Conference - see para. 6) and the World Health Report 2007, health systems' infrastructure and organization need to be strengthened in developing countries to ensure timely identification of AI outbreaks and effective rapid response for containment of a potential influenza pandemic. The new International Health Regulations (IHR-2005)[20] approved in 2005 and effective since 1 June 2007 oblige member states to immediately report to WHO any emerging global health threat. Countries who willingly do not comply with these regulations are liable to sanctions. The IHR-2005 provides a framework to national policy makers for strengthening and maintaining core surveillance and response capacities to assess and report public health events to WHO and respond to public health risks and emergencies. Progress has been very limited[21], and most countries will have to make significant investments in the health sector to meet these new requirements. Strengthening health systems in developing countries will assist them in combating not only AI but any present and future communicable and emerging disease.[22]

[18] http://www.un.org/esa/desa/papers/2007/wp41_2007.pdf
[19] http://www.who.int/mediacentre/news/notes/2007/np18/en/index.html

Current ADB-supported activities related to AI are in line with the IHR-2005. In the case of avian influenza and other zoonoses (animal diseases that can be transmitted to humans), strengthening veterinary systems is also essential.

III. MOBILIZATION and COORDINATION

A. Global Coordination

9. The United Nations Agencies' interventions for AI are coordinated by the office of the UNSIC, which has a mandate to regularly produce a global progress report on AI to the international community on or before international AI conferences in collaboration with the World Bank. The World Bank maintains an Avian and Human Influenza Multidonor Financing Framework to track resources mobilized for AI, and coordinate resource mobilization and donors' support at the country level.

10. The World Bank administers the Avian and Human Influenza Facility (AHIF), a multi-donor grant financing mechanism proposed by the European Commission (EC) at the January 2006 Beijing Conference as a joint effort of the global community to assist developing countries affected by AI. AHIF is supported by the EC and other donor countries that include the United Kingdom, Australia, the Russian Federation, China, the Republic of Korea, Iceland, Slovenia and Estonia. By the end of March 2008,[23] 33 grants have been approved for projects in 38 countries, either exclusively or part of a regional group. ADB member countries have been awarded some of the largest grants, Viet Nam ($10 million), Indonesia ($10 million) and Afghanistan ($5 million). Financing approved for other ADB member countries include grants for Armenia ($2 million); Bangladesh ($2 million); Bhutan ($1.3 million); Cambodia ($2 million); People's Republic of China ($2.96 million); Georgia ($1.6 million); Lao PDR ($4.4 million); Myanmar ($1.37 million); Sri Lanka ($1.4 million); Tajikistan ($1.5 million); Turkmenistan ($2 million); and Uzbekistan ($2.96 million). Of the approved grants, 29 have been signed and disbursements have commenced on 21, with an average disbursement rate of 11%. Most grants are associated with the World Bank's emergency lending operations, and as the anticipated emergency has fortunately not taken place, implementation has followed the routine pace.

11. Another World Bank mechanism[24] to assist the global fight against AI is the Global Program for Avian Influenza (GPAI). While the AHIF is a multi-donor trust fund, the GPAI uses loans, credits, or grants from the International Development Association or International bank for Reconstruction and Development. GPAI approved support to ADB member countries include Afghanistan ($8 million); Armenia ($6.25 million); Azerbaijan ($5.15 million); Georgia ($7 million); Bangladesh ($16 million); Kyrgyz Republic ($5 million); Lao PDR ($4 million); India ($32.63 million); Nepal ($18.2 million); Tajikistan ($5 million) and Viet Nam ($25 million). As agreed in Beijing in January 2006, the World Bank is coordinating support at the country level, and with AHIF and GPAI resources available for the countries that need assistance, ADB's lending resources pledged in Beijing (see paragraph 14 below) are not yet needed.

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[20] http://www.who.int/csr/ihr/en/

[21] Indonesia, for example, now has capacity to independently confirm cases of AI through world-standard laboratories in-country, significantly reducing the time needed for control and response efforts.

[22] These include disease such as extremely drug resistance TB (XDR-TB), dengue, malaria, Ebola fever or chikungunya

[23] http://siteresources.worldbank.org/INTTOPAVIFLU/Resources/AHIF_QuarterlyReport_Mar2008.pdf?bcsi_scan_D4A612CF62FE9576=0&bcsi_scan_filename= AHIF_QuarterlyReport_Mar2008.pdf

[24] http://siteresources.worldbank.org/INTTOPAVIFLU/Resources/UN_WB_AHI_Progress_Report_2ndPrinting.pdf

B. Bilateral Assistance

12. Many governments and bilateral aid agencies also provide bilateral and regional assistance to countries affected by AI. These bilateral programs on AI are generally coordinated at the country-level in national AI committees, and with international partners through information sharing networks and international AI conferences. Generally, the bilateral aid agencies follow the technical lead of the international technical agencies such as FAO, WHO and OIE and support efforts in line with international strategies on AI.

IV. OVERVIEW OF ADB ACTIVITIES ON AVIAN INFLUENZA

13. Starting already in 2004, ADB was able to rapidly support AI-related activities through its $5.5 million TA 6108-REG: *Emergency Regional Support to Address the Outbreak of Severe Acute Respiratory Syndrome (SARS)* approved in 2003 to strengthen surveillance and response capacity to SARS and other emerging diseases. While most sub-projects of RETA 6108 are now completed, two sub-projects were extended with additional resources. A $198,200 assistance was provided to the Ministry of Public Health of Afghanistan (approved in July 2007) to further strengthen the country's newly established surveillance system for avian influenza. An additional $100,000 from RETA 6108 (approved in February 2008) permitted the Government of the Philippines to add a module in dengue (a re-emerging disease) prevention and control to their country-wide training on surveillance and response to AI and other communicable diseases (see appendix 2, para. 6-8).

14. To help DMCs face the increasing threat of AI in 2005, ADB allocated significant additional resources in the form of technical assistance and grant projects. In Beijing in January 2006, ADB announced the allocation of additional $69.2 million grant resources for AI and communicable diseases. These new grants finance a $30.9 million *Greater Mekong Subregion: Regional Communicable Diseases Control Project* ($30.0 million from ADB and $0.9 million cofinancing from WHO); the $1.2 million RETA*: Epidemiological Surveillance and Response for Communicable Diseases;* and the $38 million Grant 0041/RETA 6313: *Prevention and Control of Avian Influenza in Asia and the Pacific (Regional)* Project.[25] Additionally, up to $100 million of loan proceeds can immediately be reallocated for AI activities in ongoing projects upon request by DMCs and additional $300 million of new resources in loans can be rapidly mobilized if requested. Because of generous grant resources currently available to the DMCs for AI, these lending resources have not been accessed by DMCs.

15. A summary table on the allocation and utilization of resources for AI is attached in Appendix 1.

V. GRANT 0041/RETA 6313: PREVENTION AND CONTROL OF AVIAN INFLUENZA IN ASIA AND THE PACIFIC

A. Project Background

16. This $38 million regional Project, approved on 14 March 2006, is financed by Asian Development Fund IX (ADF IX) grant funds ($25 million), Japan Special Fund ($10 million), and ADB's Technical Assistance Special Fund ($3 million). In April 2007, an additional grant from the Government of Canada, through Canadian International Development Agency (CIDA)

[25] The *Greater Mekong Subregion: Regional Communicable Diseases Control Project* and RETA No. 6305: *Epidemiological Surveillance and Response for Communicable Diseases* are described in Appendix 2.

brought the total amount for the Project to $42.2 million. The Project objective is to help DMCs respond efficiently and effectively to AI and prepare for a possible human influenza pandemic. As executing agency for the Project, ADB supports direct interventions financed by the Project or works through partners, in particular the ASEAN Secretariat, FAO, and WHO, as implementing agencies for specific regional activities.

17. The Project has four components, namely, regional capacity development, regional coordination, the avian influenza response facility (AIREF), and Project management. Project administration is coordinated by the AI Secretariat, in the Regional and Sustainable Development Department, under the guidance of a Steering Committee (SC). The AI Secretariat is supported by a Regional Coordinator (consultant). Additionally, a Project consultant is based in the Bangkok office of UNSIC to facilitate regional collaboration efforts in South East Asia, and another Project consultant is based at the CAREC Secretariat in Almaty, Kazakhstan to assist collaboration and capacity-building efforts in the Central Asian Republics.

B. Main Accomplishments

(i) Regional Capacity Building and Coordination

18. The ASEAN Secretariat, in collaboration with FAO, OIE and the Directorate General of Livestock Services, Ministry of Agriculture, Indonesia organized the Fourth ASEAN Workshop on HPAI Control and Eradication in Bali on 13-15 February 2008. The meeting was the fourth and final workshop in a series to assess and share experiences on the Regional Framework for the Control and Eradication of HPAI in ASEAN member countries which was developed by the ASEAN HPAI Task Force.[26] The main purpose of the workshop was to present the Final Report of the ASEAN HPAI Task Force on the implementation of the Regional Framework for the Control and Eradication of HPAI in ASEAN and finalize the revised *ASEAN Regional Strategy for the Progressive Control and Eradication of HPAI (2008-2010)*. At the meeting, implementing partners and representatives of ASEAN member countries emphasized the fact that ADB's support had demonstrably served as a catalyst for closer regional collaboration among technical agencies and DMCs and had successfully assisted regional capacity building activities in AI and HPAI prevention and control for the benefit of DMCs. Implementing partners (ASEAN Secretariat, FAO and WHO) requested ADB to extend the project implementation period[27] until 2010 to strengthen gains made in sustainable AI and HPAI prevention and control in the region.

19. Through the Project, WHO has been able to help DMCs connect to the WHO Global Private Network, which provides rapid video conferencing, voice and data communications via satellite between regional communicable disease experts in the event of a pandemic, or other emergencies or disasters. These services are currently available in Dili, East Timor; Phnom Penh, Cambodia; Beijing, People's Republic of China; Vientiane, Lao PDR; Hanoi, Viet Nam; Suva, Fiji; Tarawa, Kiribati; Kuala Lumpur, Malaysia; and Tashkent, Uzbekistan. In addition to regional protocols on rapid response and containment, WHO has developed standard operating procedures on the deployment of existing stockpiles of anti-viral medication (Tamiflu) to assist DMCs in the event of AI outbreaks. Other capacity building initiatives include studies on the feasibility of manufacturing world standard pandemic vaccines in Asia through evaluations of vaccine manufactures based in developing countries, including the feasibility of converting

[26] The ASEAN HPAI Task Force was established on 7 October 2004 at the 26th Meeting of ASEAN Ministers of Agriculture and Forestry (AMAF) and subsequently formulated the Regional Framework for the Control of Eradication of HPAI in ASEAN

[27] The Project implementation period of Grant 041/RETA 6313 is due for completion on 31 August 2008. A request for extension until 31 December 2010 is being prepared.

veterinary vaccine manufacturing capacity to the production of human influenza vaccines. Independent assessments were made in India, Indonesia, People's Republic of China, Thailand and Viet Nam.

20. On 14-23 November 2007, FAO organized a regional training workshop on the epidemiology of animal infectious diseases in Ankara, Turkey for the benefit of CAREC countries,[28] where participants planned for enhanced surveillance of birds based on infectious disease epidemiological characteristics. The meeting was supported by the Project consultant based in the CAREC Secretariat in Almaty, Kazakhstan. Another sub-regional meeting organized by FAO for the HPAI at risk countries of South Asia was held in March 2008 in Katmandu Nepal, with representatives from Bangladesh, Bhutan, India, Myanmar and Nepal and other development partners.

(ii) Community Based Cross-Border Activities

21. In September 2007, using the additional resources from CIDA, ADB approved assistance of a partnership of international non-government organizations (the Asian Disaster Preparedness Center, CARE, the International Federation of Red Cross and Red Crescent Societies and the International Rescue Committee) [29], on strengthening the role of non-government and community organizations in combating AI through cross-border community based interventions. to strengthen the role of the rural, village-level communities in combating AI. The Partnership's interventions are taking place in Cambodia, Indonesia, Lao PDR, Myanmar, Philippines, Thailand and Viet Nam. The Project will help develop the capacity of local communities to engage with government partners (both from the Ministry of Agriculture and the Ministry of Health) to fight avian influenza outbreaks, and when appropriate, help the governments integrate homegrown solutions into national AI policies. Coordination activities and field visits to cross-border communities have been conducted culminating in the preparation of case-studies. The Partnership has also developed the outlines of a regional AI prevention toolkit. Case-studies and outlines of the toolkit were presented and discussed by representatives of community based organizations and technical agencies at a Regional Community-Based AHI Management Practitioners' Workshop on 10-13 March 2008 in Bangkok, Thailand.

(iii) Emergency Assistance

22. In March 2007 the Government of Bangladesh, through Project implementing partner FAO, requested ADB assistance in helping Bangladesh control its first outbreak of AI among poultry. ADB provided $1.5 million from the Project AIREF to Bangladesh via FAO, which is being used to strengthen animal health surveillance, target virus elimination at source and enhance community awareness campaigns. FAO teams in Bangladesh have provided technical assistance in the preparation of the National AI Preparedness and Response Plan, provided equipment and training for front-line staff for poultry culling and disinfection, and have assisted the Government to confirm AI outbreaks through confirmation of the H5N1 virus by the Weybridge AI laboratory, in the United Kingdom. This support was provided through the FAO Emergency Centre for Transboundary Animal Diseases, Regional Office for Asia and the Pacific.

[28] Afghanistan, Azerbaijan, People's Republic of China, Kazakhstan, Kyrgyz Republic, Mongolia, Tajikistan and Uzbekistan.

[29] The Avian and Human Influenza - NGO - Red Cross/Red Crescent Asia Partnership: http://www.adpc.net/communityAHI-Asia.

VI. REMAINING CHALLENGES

23. AI continues to cause human deaths and significant economic losses in Asia, which is considered the epicenter of the disease. Because of SARS and AI, there has been increasing recognition that globalization and increased social and economic integration facilitate the spread of communicable diseases. This has accelerated the approval of updated International Health Regulations (IHR-2005), which are in force since 1 June 2007. The implementation of IHR however will require significant investments for all countries, but especially for developing countries that will not be able to face the requirements without external assistance. Health systems need to be strengthened for effective surveillance, diagnosis and response to disease outbreaks.

24. The control and prevention of AI and other communicable diseases requires innovative multisectoral approaches to address not only AI but all communicable diseases. ADB can play a useful role as a catalyst to support broad strategic interventions that will enable DMCs to prevent and respond to communicable diseases. The assistance of ADB to the Philippines to address threatening diseases as public health issues, such as dengue (through RETA 6108, see appendix 2), highlights the broad nature of interventions needed for communicable disease control, such as targeting water utilities for reducing mosquito breeding sites, and communication campaigns in schools for preventive activities.

25. Access to vaccines in case of a pandemic influenza remains a major issue. Despite noticeable progress in vaccine production, there will almost certainly remain a significant shortage of vaccines when a pandemic starts. Transfer of technology is part of the solution, but it creates also major problems that need to be addressed: workforce training, quality control, market demand that will help cover the necessary investments, maintenance of vaccine production capacity, etc. There is a role for ADB to assist DMCs address these issues for the benefit not only of the region but also of the global community: the control of communicable diseases is indeed recognized as a global public good.

Allocation and Utilization of Resources for Avian Influenza

The grant portion of ADB's pledge at the Beijing conference has been fully committed. Disbursements out of the grant funds are presented in Table 2. Other major AI-related projects are also described in Table 2.

Table 2: Utilization of Resources for Avian Influenza ($'000)

Project Name and Implementing Agencies/Recipients	Commitment	Disbursement[30]
Prevention and Control of Avian Influenza (Grant 41/RETA 6313)		
ADB	17,533.0	1,607.7
ASEAN Secretariat	338.0	338.0
FAO	7,990.0	3,082.4
WHO	16,361.0	8,400.0
(Funds source: ADF $25 m; $10 m JSF; $3 m TASF; CIDA $4.2 m)		
Sub-total	42,222.0	13,428.1[31]
Regional GMS Communicable Disease Control (Grants 25/26/27)		
Cambodia	9,000.0	2,985.8
Lao PDR	6,000.0	4,045.2
Viet Nam	15,000.0	4,524.4
(Funds source: ADF $30 m)		
Sub-total	30,000.0	11,555.4
Epidemiological Surveillance and Response for Communicable Diseases in Indonesia, Malaysia and Philippines (RETA 6305) *(Funds source: TASF $1.2 m)*	1,200.0	848.9
Sub-total	1,200.0	848.9
Emergency Regional Support to Address the Outbreak of SARS (RETA 6108) *(Funds source: TASF $2.0 m; JSF $3.0 m; ICDF $0.5 m)*	5,500.0	4,359.7
Sub-total	5,500.0	4,359.7
TOTAL	**78,922.0**	**30,192.1**

ADF = Asian Development Fund; JSF = Japan Special Fund; TASF = Technical Assistance Special Fund; CIDA = Canadian International Development Agency; ICDF = International Cooperation and Development Fund.

[30] Including contracts awarded, and advances made to the account of the implementing agencies to facilitate ongoing implementation

[31] While funds allocated for regional capacity development and regional coordination are rapidly being used, funds from AIREF (emergency assistance) are not used as fast as initially expected (only 2 emergency assistance grants approved) because of the significant resources now available to DMCs through bilateral grant assistance.

Other ADB Activities Related to Avian and Human Influenza

A. Greater Mekong Subregion Regional Communicable Diseases Control Project (Grant 025/Cambodia – Grant 026/Lao PDR – Grant 027/Vietnam)

1. The Greater Mekong Subregion (GMS) Regional Communicable Diseases Control (CDC) Project was approved in November 2005 with the goal of containing the spread of communicable diseases (including AI and HIV/AIDS) and reducing the burden of common endemic infectious diseases in Cambodia, Lao PDR, and Viet Nam (the Project countries). The Project is financed by a $30.0 grant from the Asian Development Fund (ADF) IX grant resources for HIV/AIDS and Other Infectious Diseases and $0.9 million from WHO, and consists of Grant 0025 ($9.27 million) to Cambodia; Grant 0026 ($6.18 million) to Lao PDR; and Grant 0027 ($15.45 million) to Viet Nam.

2. The Project has three main components: (i) strengthening the national surveillance and response system; (ii) improving CDC for vulnerable populations; and (iii) strengthening regional cooperation in CDC. The Ministries of Health of Cambodia, Lao PDR, and Viet Nam are the executing agencies. The concerned Governments are providing counterpart financing totaling $7.85 million.

3. The first Regional Public Health Forum[32] took place in Vientiane, Lao PDR, on 5-7 November 2007. Objectives of the forum were to discuss experiences relating to communicable disease control, health systems, regional and cross-border aspects of control, and identify regional opportunities and constraints for cooperation in health system development. A total of 146 participants attended from Cambodia, People's Republic of China, Lao PDR, Myanmar, Thailand and Viet Nam, and other representatives from development partners. Other regional coordination activities included the first Regional Technical Forum on Dengue in Nha Trang, Viet Nam, which was organized on 24-26 October 2007 and the Regional Project Review Workshop 2007 in Vientiane on 8 November 2007.

B. Strengthening Epidemiological Surveillance and Response for Communicable Diseases in Indonesia, Malaysia, and Philippines (RETA 6305)

4. This technical assistance, approved in January 2006, is intended to support interventions to reduce vulnerability to communicable diseases in the concerned countries and to enhance coordination and harmonization of surveillance and response systems. The TA will close in June 2008.

5. ADB financing of the TA is $1.2 million. A consulting firm has been recruited to assist Indonesia, Malaysia, and the Philippines in the implementation of TA activities. Regional training on the Philippine Integrated Disease Surveillance and Response (PIDSR) System is ongoing, as well as testing of the ESR systems and selected health subsystems in each country through simulated field exercises, inter-country information-exchange, joint research, and sub-regional workshops. An international conference is scheduled in May 2008.

[32] More details are available on the project website: http://gms-cdc.org/index.php

C. Emergency Regional Support to Address the Outbreak of SARS and Emerging Diseases (RETA 6108)

6. ADB approved this RETA on 23 May 2003 for $2.0 million. Additional cofinancing of $3.0 million in September 2003 (Japan Special Fund-JSF) and $0.5 million in June 2004 (International Cooperation and Development Fund-ICDF), bringing the total RETA amount to $5.5 million, allowed a broadening of the scope and range of the RETA to include activities related to avian influenza and other emerging infectious diseases. As of 11 April 2008, total disbursement under the RETA amounts to $4.3 million (TASF-$1.1 m, JSF- $2.7 m, ICDF-$0.45m). The completion date of the RETA has been extended until 30 June 2008 to allow completion of ongoing activities. The ICDF portion of the RETA has been used to strengthen human capacities in public health services such as conference and short-term training programs that focus on surveillance, infectious disease control, emerging disease management, and related issues.

7. Currently, RETA funds are still being used in the Philippines to control and prevent the spread of dengue hemorrhagic fever. The National Anti-Dengue Campaign was launched on 22 January 2008 with Department of Health Secretary Francisco Duque distributing anti-dengue communication materials prepared under the Project to representatives of the Department of Education and local governments, with participation of ADB staff, WHO staff, and other stakeholders. Training for Orientation for Regional Dengue Coordinators was conducted in January 2008 and the first series of regional training workshops on dengue prevention and control was held in Cebu in February 2008. The training for the Ilocos Region, Autonomous Region in Muslim Mindanao, and other regions will be conducted from March to May 2008.

8. At the request of Ministry of Public Health of the Government of Afghanistan, a $198,200 grant from RETA 6108 has also been allocated to assist in strengthening the newly established surveillance system for avian influenza and train Provincial Public Health Officers in establishing emergency preparedness and building response capability for a possible pandemic influenza. Management Science for Health, a consulting firm with significant experience in Afghanistan, is assisting the Government. The first training session, in collaboration with the Afghan Public Health Institute, for provincial rapid response teams was held in Kabul on October 2007 where a total of 170 team members were trained. In addition, eight AI referral hospitals in various provinces in Afghanistan have been assessed and hospital personnel have been trained in infection control.

Update on significant AI-related events as of 26 May 2008

A. EU approves the first pre-pandemic H5N1 vaccine

1. On 19 May 2008 the European Union (EU) has approved the first pre-pandemic H5N1 vaccine made by the pharmaceutical company GlaxoSmithKline (GSK). The European Medicines Agency has approved the vaccine, called Prepandrix®, for marketing in all 27 EU countries.[33] The pre-pandemic vaccine, developed from a strain of H5N1 isolated in Vietnam in 2004, will offer some protection against an emerging pandemic strain of H5N1 until a specific pandemic vaccine can be developed and produced, a process expected to take 4 to 6 months. GSK announced that it would donate 50 million doses of its H5N1 pre-pandemic vaccine to WHO to help launch an international pre-pandemic vaccine stockpile for developing countries. The company said it has already sold supplies of its vaccine to the United States, Switzerland, and Finland. WHO said last week that at least 16 other companies have H5N1 vaccines in advanced development. Prepandrix® is licensed for adults aged 18 to 60.

B. Bangladesh - First human case of H5N1 influenza

2. On 23 May 2008 Bangladesh reported its first human case of avian flu H5N1 confirmed by WHO,[34] a 16-month-old boy from Dhaka, bringing the number of countries which have recorded human infections to 15. No sick poultry was reported near the boy's home, but the family had purchased birds from a local market. The virus is probably widespread in poultry in the country, with at least 75 percent of all districts reporting outbreaks in January and February 2008, and more than 30 farms affected in April. FAO warns that H5N1 is possibly entrenched in birds in the country, and virus transmission has not been interrupted. The H5N1 virus was first detected in Bangladesh in March 2007, and since then, authorities have culled around 2 million chickens and destroyed more than 2 million eggs with huge impact on the poultry sector and the about 500,000 people working in this sector. Avian influenza has spread through 47 of Bangladesh's 64 districts, causing losses of about $650 million for the growing poultry sector, which accounts for 1.6 percent of the impoverished nation's gross domestic product.

C. AI in Korea and Japan

3. South Korea[35] has been battling its latest outbreak of AI since 1 April 2008, with the agriculture ministry reporting 42 outbreaks at 33 sites around the country, including Seoul. Authorities plan to cull a record 5.3 million birds in what has become the country's fastest and biggest outbreak of avian influenza. Japan[36] confirmed on 23 May two wild swans found in Lake Towada in Aomori prefecture in northern Japan, with the strains in Japan and South Korea found to be closely linked (suggesting dissemination by wild birds). Both South Korea and Japan have not yet reported human cases of AI.

[33] http://www.gsk.com/media/pressreleases/2008/2008_pressrelease_10048.htm
[34] http://in.reuters.com/article/southAsiaNews/idINIndia-33731720080523
[35] http://news.yahoo.com/s/afp/20080518/wl_asia_afp/healthfluskorea_080518091929
[36] http://www.cidrap.umn.edu/cidrap/content/influenza/avianflu/news/may2308birds.html