

FAO AIDE news

Avian Influenza Disease Emergency

Update on the Avian Influenza situation (As of 27/08/2004) – Issue no. 21



Wild and domestic birds Live market in Jog Jakarta
(Photo: S. Morzaria)

The information summarized below is gathered from official and non official sources, which are quoted in the text. AIDE news is prepared by the FAO Technical Task force on Avian Influenza.

1. Latest information on Avian Influenza

Highly pathogenic avian influenza (HPAI) type H5N1 infection was confirmed in Malaysia last week, increasing to nine the number of countries where HPAI H5N1 has been confirmed. Three additional human cases have been diagnosed in Viet Nam in the past two weeks. Attention was drawn this week to reports of H5N1 detection in pigs in China during 2003, but the significance of the finding must be interpreted in the environment and conditions in which it was detected. To understand the factors related to AI epidemics and to improve the quality of diagnostic and surveillance information, FAO is launching sub-regional surveillance and diagnosis networks, the first being for Southeast Asia, with national and international partners.

Country situation

Thailand: Total number of AI affected as determined by the Thai government since 3 July reached 98 in 26 provinces. AI infection in native chickens in Koke sa lood, Lopburi Province, layer chickens in Wiharndang, Saraburi Province, and ducks in Bang bua tong, Nontaburi Province were confirmed on 23/08/04. Within the 98 areas, 73 areas in 24 provinces have undergone a 21 day-surveillance period without additional cases. Total number of poultry destroyed since 3 July is 324,859 and 35,000 quail eggs since 03/07/04. Regulations came into effect to control the illegal use of AI vaccines. Under these regulations, users of vaccine can be fined and jailed for up to 3 years. (26/08/04, Source: FAO, media website)

Viet Nam: The most recently reported mortalities in birds involved approximately 3,400 quails in the province of Hau Giang on 02/08/04. Some 17,000 chickens and other birds have culled in Hau Giang province in the past month. More than 45,000 chickens, 3,000 ducks and 15,000 quail have been culled in Viet Nam since April 2004. A woman was confirmed to have died of H5N1 bird flu in the Hau Giang province. Two children from northern Ha Tay province also died of AI in early August. In response to the reported events, Viet Nam stepped up culling poultry in the area. (24/08/04 Source: Government, FAO, media website).

Malaysia: On 18/08/04, H5N1 infection was reported in two chickens at a backyard operation in Kampung Baru Pasir Pekan, Kota Bharu, Kelantan State, about 10 km to border with Thailand. There were 103 chickens and ducks and 62 pet birds at the village. The case was discovered during routine checks, following reports that AI had infected chickens in Narathiwat, Thailand. These cases were located some 100 kilometres from the village, at a location with both river and road connection. The government has suspended exports to Singapore and all other markets. The area within a 10 kilometre radius of the village has been quarantined. (20/08/04, Source: media website)

South Africa: HPAI H5N2 outbreak was detected in three additional farms that are adjacent to the two farms reported in the last issue of AIDENews. Birds tested on the farm at Draaihoek – located south of the initial outbreak and sharing an irrigation canal - have been found to be positive. There have been 200 mortalities in 2,000 birds in the past three weeks. The intravenous pathogenicity index (IVPI) performed at the Veterinary Laboratory Agency, Weybridge, UK was 0.63. (21/08/04, Government, media website, ProMED)

China: The National Avian Influenza Reference Laboratory reported that AI H5N1 virus had been found in pigs prior to 2004. H5N1 virus was found in a sample taken from a pig in 2001, and again in 2003. In early 2004, the Ministry of Agriculture carried out nationwide surveillance, including some samples from pigs, no H5N1 virus was found in swine. (26/08/04 Source: Government, FAO, media website)

2. Surveillance and Post-epidemic rehabilitation activities – What next?

➤ **Indonesia: Avian influenza disease situation and its control**

A mission to Indonesia was undertaken by FAO consultant Dr. Ian Douglas, from 14 June to 16 July - OSRO/RAS/401/JPN.

The poultry industry in Indonesia is very large and the approximately 20% of production is not controlled by large companies but by cooperatives and villagers that are widespread in the country. The traditional systems of poultry keeping and marketing are well-entrenched. The agricultural sector has not been highly regulated and farmers and villagers may not see the imperative to conform to rules, and in most cases would not be aware of them. The communication of regulations and their reasons and benefits to the many farmers and their advisors is difficult. HPAI has probably been active in Indonesia since at least the third quarter of 2003. The major losses began in November/December 2003. The disease has significantly affected poultry numbers and affected the domestic supply of poultry products, resulting in price increases for poultry products. Small but significant increases have caused demand to drop and consumers to use other products (e.g. more fish). In some areas, pre-outbreak prices of Rp 9 000 / kg rose to Rp 13 000 / kg before falling to Rp 11 000 / kg when stocks failed to clear. On a national basis, the disease has extended and continues to spread, being most apparent in previously unaffected areas. However, control efforts have made considerable progress. During the past six months, flocks that were at risk due to location or husbandry practices have probably succumbed to infection. Restocking has only occurred in some places, due to financial difficulties.

The spread disease can probably be attributed in large part to live bird movement between most of the larger Indonesian islands. There is substantial trade, including via live bird markets and a tendency to sell off sick birds or companions to sick birds. The movement of village birds, "Kampung chickens", is probably a significant factor in disease spread in Indonesia. 'Nomadic' duck flocks, which move among rice fields, potentially represent another important source of reinfection, but their AI status is unknown. Although it is thought that Central Java had the first cases in Indonesia, there is anecdotal evidence of illegal bird movement to other islands from neighbouring countries, so it is possible that there were several portals of entry. It is likely that disease will continue spreading to new areas with large morbidity and case fatality rates, accompanied by sporadic, minor outbreaks with lower morbidity in previously affected areas (due to declining immunity and the entry of new, unvaccinated birds into the population).

Vaccination is the primary control tool used in Indonesia at present. There is some evidence that vaccination has been effective. Most vaccines used are based on wild H5N1 and serological tests cannot be used to differentiate natural from acquired immunity. At least eight different inactivated vaccines are available in Indonesia (three locally manufactured; one from China; and four from Mexico). These are either H5N1 subtypes or, in the case of Mexican vaccines, H5N2 subtypes. There is a significant amount of privately purchased vaccine being used. Initially, this came from China and was provided through farm servicemen. A large amount of publicly-purchased vaccine has been used in affected districts and this has supplemented privately obtained vaccine. Vaccine has generally been distributed and administered efficiently. When a district is judged to have more than a few diseased flocks, vaccine is made available to farmers in the entire district. Laboratory confirmation of the farm's AI status is not required. The vaccines appear to be effective in preventing losses due to disease. A number of farms reported rapid spread within sheds but not between sheds. In one case history, there was 100% loss of 2,000 three month-old replacement layers housed in a barn, but this did not spread to 5,000 caged layers housed some 20 metres away had been vaccinated with Chinese vaccine. However, infection did spread to 2,000 unvaccinated caged layers, causing high losses, in a farm 80 metres away. There is now reliance on vaccination as a means of avoiding major economic loss. It is unclear whether wild virus continues to circulate in vaccinated flocks but it can be concluded that there is less virus in the environment than in the first quarter of 2004.

When H5N1 is introduced to a naïve flock or village, there is very high morbidity and very high case-fatality (mortality rates approach 100%). The pattern of spectacular outbreaks with 100% mortality, as seen to date, will probably be replaced by one of more sporadic outbreaks with lower morbidity, as the virus enters vaccinated flocks containing enough susceptible birds, as new birds are introduced or vaccine-induced immunity declines.

On 13 July 2004 the Directorate General of Livestock Services (DGLS) reported that cases had been confirmed in 14 of 33 provinces and 95 districts as follows:

ISLAND	PROVINCE
Java	West Java, Central Java, East Java, Banten, Jakarta, Yogyakarta
Sumatra	Lampung, South Sumatra, West Sumatra, Bengkulu
Kalimantan	West Kalimantan, Central Kalimantan, South Kalimantan
Bali	Bali

Since Indonesia has separate systems for disease investigation (Disease Investigation Centres, DIC) and disease control (DINAS agencies), the Director of Animal Health was required to work collaboratively with several other agencies to mount a 'whole-of-government' response. Sub-district livestock officers are key in the disease-reporting process, however, their reports are sometimes consolidated, becoming less informative in the process. There is little incentive for farmers to report. Before the announcement that compensation was being made available, many farmers may have not reported losses to avoid a drop in the value of their product.

Biosecurity practices are generally primitive, if present. Even those farms with better biosecurity continue to vaccinate for additional confidence. Issues that continue to present problems include: unrestricted movement of birds onto properties; keeping free-ranging birds in association with caged or housed birds; recycling of cardboard egg crates and their use within layer sheds; concentration at distribution points of used egg crates, eggs, day old chicks and live birds; uncontrolled visits by personnel and feed trucks to areas near sheds; and, the use of drinking water contaminated by bird faeces.

Biosecurity and disease reporting must be improved in order to successfully combat AI in the long term.

Diagnostic capabilities have improved and a broader, systematic surveillance program is about to be implemented nationally. However, lack of resources continues to influence activity in the field. The cold-chain for proper vaccine delivery and distribution is inadequate in many sub-districts. A surveillance plan based on serological surveillance is in the early stages of implementation in Bali. A surveillance system based on field observation and/or use of sentinels to evaluate virus circulation is recommended in areas where vaccination has been performed. Surveillance of vaccine efficacy and the decay of antibody levels post-vaccination is also a priority.

3. Actions taken – follow-up

➤ **FAO's regional approach to AI**

As previously reported, FAO has implemented three Technical Cooperation Programmes (TCPs) that provide for sub-Regional HPAI Diagnosis and Surveillance Networks – TCP/RAS/3006, 3007 and 3008, covering Southeast Asia, East Asia and South Asia respectively. The first TCP, covering Southeast Asia, was launched at the beginning of August. The Networks are built upon the concept that countries within a sub-Region adopt minimum, standardized requirements for diagnosis and surveillance of HPAI. Networks for East Asia and South Asia are expected to be launched in the next few months. In all cases, the short-term objective is to improve the quality of data collection and analysis at the national level. In the medium-long term the goal is to improve collaboration and epidemiological analysis at the sub-Regional and Regional level. As a transboundary animal disease, AI must be addressed on a regional basis in order to be successful in controlling the disease.

The minimum requirements for diagnosis and surveillance are set out in a document entitled "Guiding Principles for Highly Pathogenic Avian Influenza Surveillance and Diagnostic Networks in Asia" that was developed at an FAO Expert Meeting held 21-23 July. Scientists, including several from several OIE collaborating laboratories, participated in the Expert Meeting to ensure that the principles were consistent with OIE recommendations, where these exist. The Guiding Principles will be available on the FAO Internet site shortly:

http://www.fao.org/ag/againfo/subjects/en/health/diseases-cards/avian_recomm.html

The goal is for the requirements set out in the Guiding Principles to be applied consistently throughout the sub-Region under the leadership of Network centres for diagnosis and epidemiological analysis. In the case of Southeast Asia, Laboratory diagnostic leadership will be provided through the National Institute of Animal Health laboratory in Bangkok and Epidemiology leadership by the Department of Livestock Development in Bangkok. In the longer term, it is anticipated that ASEAN will take over leadership of the HPAI Network, as is already the case for the Southeast Asia foot and mouth disease Campaign (SEAFMD).

The next phase of the TCP requires collaboration between several organizations/institutes in the development of epidemiology training and technical support activities. In October, FAO will hold a meeting in Rome with representatives of participating organizations to develop a work programme that will meet the needs identified by participating countries at the Launching Meeting.

Information on FAO's HPAI sub-Regional networks may be found at:

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

➤ **FAO Regional Animal Production and Health Commission for Asia, the Far east and the Southwest Pacific (APHCA) 28th Session (26/09–1/10/2004, Chiang Mai, Thailand)**

➤ **Recent Missions (July – August):**

We will be grateful if other organizations/countries could send us information on their assistance missions to the countries concerned. (e-mail to: Avian-Influenza-Registration@fao.org)

[Region]

- Dr. F. Dolberg (Denmark) FAO consultant (Poultry Production Expert), Ongoing (Mission to Cambodia, Indonesia, Lao PDR and Thailand).
- Mr. M. Kodaira, FAO Liaison Office with Japan (Yokohama) Liaison Officer, 3-15/07/04. (Mission to Viet Nam, Lao PDR and Cambodia)
- Ms. H. Niggemann, FAO TCEO (Rome) SE Asia Operations Officer. 1-10/07/04. (Mission to Thailand and Viet Nam)
- Dr. J. Domenech, FAO AGAH (Rome) Chief, Animal Health Service. 28/06-7/07/04 (Mission to Cambodia, Thailand and Viet Nam).
- Dr. L. Sims (Australia), FAO consultant (Avian Influenza Disease Management), 11/07–20/08/04 (Mission to China, Mongolia and The Democratic People's Republic of Korea).

[Cambodia]

- Dr. A. McLeod, FAO AGAL (Rome) Senior Officer (Livestock Policy). To commence in the week of 30/08/04
- Dr. Y. Froehlich (France) FAO consultant (Project Technical Adviser), Ongoing.
- Dr. S. Desvaux (France) FAO consultant (Veterinary Epidemiologist), 10/05-09/08/04
- Dr. C. Benigno, FAO RAP (Bangkok) Animal Health Officer, 28/06-1/07/04.

[China]

- Dr. V. Martin, FAO AGAH (Rome) Animal Health Officer (Infectious Diseases Emergencies). 12-20/07/04.

[Indonesia]

- Mr. Y. Endo, Director, FAO Liaison Office with Japan (Yokohama) 17-22/08/04
- Dr. I. Douglas (Australia) FAO consultant (Veterinary Epidemiologist), 14/06-26/07/04
- Dr. C. Benigno, FAO RAP (Bangkok) Animal Health Officer, 5-8/07/04

[Lao PDR]

- Dr. R. Webb (Australia) FAO consultant (Epidemiology and programme management) 27/04–29/07/04
- Ms. E. Bautista (Philippines) FAO TCDC Consultant (Project finance & administration officer) Ongoing.
- Dr. Lu Huaguang (USA/China) FAO TCDC Consultant (Laboratory diagnostics), 20/06-20/07/04

[Thailand]

- Dr. J. Domenech, FAO AGAH (Rome) Chief, Animal Health Service, 26-31/07/04
- Dr. S. Desvaux (France) FAO consultant (Veterinary Epidemiologist), 20-31/07/04
- Dr. F. Dolberg (Denmark), Poultry Production Expert, 20-30/07/04
- Dr. T. Ellis (Hong Kong/China), Agriculture, Fisheries and Conservation Department, Epidemiology and Laboratory Diagnosis, 20-24/07/04
- Dr. L. Gleeson (Australia) Australia Animal Health Laboratory, CSIRO. FAO consultant (Epidemiology and emergency management), 20-30/07/04
- Dr. F. Guo (China), FAO project coordinator. TCP/RAS /3007, 20-24/07/04
- Dr. R. Jackson (New Zealand), Epidemiology, 20–24/07/04
- Dr. P. Kitching (Canada/UK), Canadian Food Inspection Agency, Epidemiology and Laboratory Diagnosis, 20-24/07/04.
- Dr. S. Marangon (Italy), Istituto Zooprofilattico Sperimentale Delle Venezie, Epidemiology and Laboratory Diagnosis, 20-24/07/04.
- Dr. M. Nunn (Australia), Department of Agriculture, Fisheries and Forestry, Epidemiology and emergency management, 20-31/07/04.
- Prof. D. Pfeiffer (UK), the Royal Veterinary College, University of London. Epidemiology, 20-24/07/04

- Dr. D. Senne (USA), National Veterinary Service Laboratory, Animal and Plant Health inspection Service, Laboratory Diagnosis, 20-24/07/04
- Dr. A. Turner (Australia), Epidemiology, 20-24/07/04
- Dr. S. Kahn (Canada/Australia) FAO Consultant (Programme Management and Coordination). 19–31/07/04
- Dr. L. Sims (Australia), FAO consultant (Avian Influenza Disease Management). 20-24/07/04
- Dr. V. Martin, FAO AGAH (Rome) Animal Health Officer (Infectious Diseases Emergencies), 20-23/07/04

[Viet Nam]

- Dr. A. McLeod, FAO AGAL (Rome) Senior Officer (Livestock Policy). To commence in the week of 06/09/04
- Dr. C. Benigno, FAO RAP (Bangkok) Animal Health Officer, 14-16/07/04.
- Dr. H. Wagner, FAO RAP (Bangkok) Senior Animal Production and Health Officer. 04-8/07/04

4. Resources available

Relevant articles/publications:

- FAO AGAH website: <http://www.fao.org/ag/againfo/subjects/en/health/default.html>
- Guiding Principles : Highly Pathogenic Avian Influenza Surveillance And Diagnostic Networks In Asia (FAO Expert Meeting 21-23 July Bangkok)
http://www.fao.org/ag/againfo/subjects/en/health/diseases-cards/avian_recomm.html
- FAO/OIE Emergency Regional Meeting on Avian Influenza Control in Animals in Asia (26-28 February). The full text of the final report is available on:
http://www.fao.org/ag/againfo/subjects/en/health/diseases-cards/HPAI_Bangkok.pdf
- China-ASEAN Special Meeting on HPAI Control. Beijing, 2 March 2004
The full text of the Joint Press Statement "China-ASEAN Special Meeting on HPAI Control" is available on AIDEnews issue 8 pages 4 - 5:
<http://www.fao.org/docs/eims/upload/153869/AVIbull008.pdf>
- FAO/OIE/WHO Technical Consultation on the Control of Avian Influenza 3 - 4 February 2004
The full text of the Conclusions and recommendations is available on FAO website:
http://www.fao.org/newsroom/common/ecg/36647_en_experts.pdf
- Manual on the preparation of national animal disease emergency preparedness plans
<http://www.fao.org/docrep/004/x2096e/x2096e00.htm>
- The use of vaccination as an option for the control of Avian Influenza (I. Capua, S Marangon) – 71st OIE General Session (May 2003). Available at:
http://www.fao.org/docs/eims/upload/153564/A_71_SG_12_CS3E.pdf
- Information for shipping international diagnostic specimens to the International Reference Laboratories (see appendix 2 of AIDEnews issue 5 or 6, available at:
<http://www.fao.org/ag/AGA/AGAH/EMPRES/index.asp>)
- FAO/EMPRES Manual on procedure for disease eradication by stamping out (Available at: <http://www.fao.org//DOCREP/004/Y0660E/Y0660E00.HTM>)
- FAO AIDE News (Vol. 1 - 20)
(Available at: http://www.fao.org/ag/AGA/AGAH/EMPRES/tadinfo/e_tadAVI.htm)

- FAO AIDE News maps
(Available at: http://www.fao.org/ag/AGA/AGAH/EMPRES/maps/e_maps.htm)

Helpful links:

FAO Avian Influenza fact sheet:

<http://www.fao.org/ag/againfo/subjects/en/health/diseases-cards/avian.html>

OIE Manual of Diagnostic Tests and Vaccines for Terrestrial Animals **2004** - CHAPTER 2.1.14. Highly Pathogenic Avian Influenza http://www.oie.int/eng/normes/mmanual/A_00037.htm

Proposed new chapter for The OIE Terrestrial Animal Health Code [Chapter 2.1.14.] Avian Influenza: http://www.oie.int/eng/AVIAN_INFLUENZA/safety.htm click the link to the proposed new chapter submitted in May 2004

OIE Update on Avian Influenza in Animals in Asia web site:

http://www.oie.int/download/AVIAN%20INFLUENZA/A_AI-Asia.htm

OIE Technical Disease Cards:

http://www.oie.int/eng/maladies/fiches/a_A150.htm

WHO Avian influenza web site:

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

Updated Information for Travellers about Avian Influenza A (H5N1)

<http://www.cdc.gov/travel/other/h5n1apr2004.htm>

Foreign Animal Diseases (1998) United States Animal Health Association. "The Gray Book" http://www.vet.uga.edu/vpp/gray_book/FAD/avi.htm

AUSVETPLAN including HPAI Disease strategies and Operational procedures

<http://www.aahc.com.au/ausvetplan/>

Avian Influenza - Disease and Control Strategies and Contingency Planning (intervet)

<http://www.avian-influenza.com/>

Avian Influenza - Its Causes, Effects & Control (Antec International)

<http://www.antecint.co.uk/main/avianflu.htm>

Biosecurity for the Birds (USDA Animal and Plant Health inspection Service, Veterinary Service) <http://www.aphis.usda.gov/vs/birdbiosecurity/>

Biosecurity for Poultry Flocks (Joan S. Jeffrey, University of California, Davis, School of Veterinary Medicine) http://www.vetmed.ucdavis.edu/vetext/INF-PO_Biosecurity.html

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Supervision and Coordination:

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Annex 1: Situation in Asian Countries (as of 27/08/2004)

area	date of first official reporting to the OIE	type	animals affected	human case	Latest information		
					last known case	source	comments
Republic of Korea	17/12/03	H5N1	layer, duck; virus isolated: magpie	no	24/03/04	Government; media websites	AHD/MAF informed OIE the negative result of the final serological testing of the sentinel birds on 19/07/04
Viet Nam	8/01/04	H5N1	chicken, quail, duck, muscovy duck	yes	02/08/04	Media websites	Three human cases confirmed since July 04
Japan	12/01/04	H5N1	chicken, crow	no	05/03/04 (crow)	Government and media website	all the movement restrictions lifted by 13/04/04
Taiwan Province of China	20/01/04	H5N2 (LP ³)	chicken, duck, pheasant	no	09/03/04	Meeting report, media website	
Thailand	23/01/04	H5N1	virus isolation: chicken, duck, goose, quail, turkey, stork	yes	24/08/04	Government, FAO ² , media websites	
Cambodia	24/01/04	H5N1	Chicken, duck, goose, turkey, guinea fowl, wild bird	no	09/05/04	Government, FAO	Ban on poultry farming in all 12 locations lifted on 24/06/04
Hong Kong SAR	26/01/04	H5N1	Peregrine falcon	no	28/01/04 (Falcon)	Meeting report, media websites	
Lao, PDR	27/01/04	H5N1	Chicken, duck and quail	no	02/03/04	Government, FAO	
Pakistan	28/01/04	H7N3 H9N2 (LP)	layer	no	End of January	Government, FAO	
Indonesia	06/02/04	H5N1	Chicken, duck and quail	no	July 04	Government, FAO, media websites	
China	06/02/04	H5N1	virus isolation: chicken, duck, goose, quail, pigeon, pheasant, black swan	no	06/07/04	Government, FAO, media websites	The 21-day stand still orders of Chaohu city, Anhui province ended on 28/07/04
Malaysia	19/08/04	H5	chicken, fighting cocks (?)	no	19/08/04	Government, media websites	Government claims to have stamped it out.

1) Official (OIE) and non official Information (ProMED, press agencies, FAO tracking systems..)

2) FAO: FAO representative in concurrence

3) LP: low pathogenic strain

Annex 2: Situation in other Countries (as of 27/08/2004)

area	date of official reporting to the OIE	type	animals affected	human case	Latest information		
					last known case	source	comments
United States of America	11/02/04	H7N2 (LP)	Chicken	no	11/02/04 (Delaware)	Delaware Department of Agriculture Statement, FAO	
		H2N2 (LP)	Chicken	no	03/02/04 (Pennsylvania)	Pennsylvania Department of agriculture website; ProMED	
	23/02/04	H5N2	Chicken	no	Late February (Texas)	Texas Animal Health Commission and USDA website; FAO	USDA informed OIE the eradication of HPAI in Gonzales County, Texas on 01/04/04
		H7N2 (LP)	Chicken	no	09/03/04 (Maryland)	Maryland Department of Agriculture News Release; FAO	
		H7N3 (LP)	non-commercial	no	22/06/04 (Texas)	Texas Animal Health Commission website	
Canada	19/02/04	H7N3 (LP)	Chicken	yes (conjunctivitis)	29/04/04 (British Columbia)	Government website	CFIA informed OIE that the identified zone is no longer considered as infected, as of 9 July 2004
	09/03/04	H7N3					
Netherlands				no		FAO; Government; ProMED; Gphin ⁴	Suspected H7 sero-positive were false positive reactions in Lab.
South Africa		H6 (LP)	commercial poultry	no	25/03/04	ProMED	
		H5N2	ostrich farms	no	18/08/04 (Eastern Cape province)	Web Media (AFP), Government	HPAI outbreaks were reported from ostrich farms in Eastern Cape province
Egypt		H10N7 (LP)	wild duck	yes	23/05/04 (from survey sample)	ProMED	

4) Gphin: Global Public Health Intelligence Network (Health Canada)

Annex 3

- Donor Assistance –

Many institutions and governments have committed emergency assistance funds to help control HPAI outbreaks. FAO AIDE news is collecting information on donor assistance (financial, in kind or technical assistance) through FAO representations in Asian countries. FAO recognises that the tables below may be incomplete. We thank all donors and governments for their cooperation in providing additional complementary information.

Recipient countries:

Cambodia

Donors	Amount (US\$)	Description
FAO TCP	\$390,000	TCP/CMB/3002 Emergency assistance for the control of avian influenza
ADB*	\$91,940	Non-Trust Fund, under general coordination of FAO (for training, equipment and public awareness activities)
Australia	\$50,000	AusAID through FAO Trust Fund (OSRO/CMB/402/AUL)
China	\$50,000	Direct contribution to government (no details given)
France	\$57,600	French Cooperation through FAO Trust Fund (OSRO/CMB/403/FRA)
Germany	\$50,000	GTZ through FAO Trust Fund (OSRO/CMB/401/GER)
Japan	\$56,000	Non-Trust Fund, grant assistance for grass-roots human security project for antiviral medicines & equipment
	\$402,176	MoFA through FAO Trust Fund (OSRO/RAS/401/JPN, total \$1,610,083)
WHO	\$3,000	PPE supplies/training, lab training for DAHPs investigating teams and Human Flu Vaccine purchase.

*: Asian Development Bank

(As of 03/04/04. source: FAO representation in Cambodia)

China

Donor	Amount (US\$)	Description
FAO TCP	\$390,000	TCP/CPR/3004 Emergency assistance for the control of avian influenza

(As of 14/04/04. source: FAO Emergency Operations Service)

Indonesia

Donors	Amount (US\$)	Description
FAO TCP	\$390,000	TCP/INS/3001 Emergency assistance for the control of avian influenza
Australia	\$250,000	Human health protection through WHO Provide training (2 virologists) in AAHL, Geelong, Australia - dispatch 3 epidemiologists working with the Disease Investigation Center's staff members to assist the surveillance action plan - dispatch 1 virologist for bench training in DIC R-III, R-IV and R-VI (18 vets and assistants) - Provide training (2 field veterinarians) on HPAI in AVA, Singapore
China	\$100,000	Vaccines, training, public awareness at off farm
Germany	\$61,000	OSRO/INS/402/GER through FAO Trust Fund. Four trainings on clinical & gross pathology diagnosis (total 222 veterinarians)
Japan	\$78,906	MAFF provided protective gear through grass roots aid fund
	\$113,000	Public awareness campaign activities
	\$10,000	Through JICA/Indonesia on diagnostic training (24 veterinarians)
	\$402,117	MoFA through FAO Trust Fund (OSRO/RAS/401/JPN, total \$1,610,083)
Netherlands		May provide veterinary experts in support of FAO operations.
USA		Support through the provision of laboratory analysis available in Atlanta
World Bank		- AI workshop in Bengkulu - training for field officers & farmers on clinical signs, vaccination & biosecurity measures in Bengkulu (3 districts)

(As of 27/07/04. source: FAO representation in Indonesia)

Lao PDR

Donors	Amount (US\$)	Description
FAO TCP	\$390,000	TCP/LAO/3001 Emergency assistance for the control of avian influenza
ADB	\$50,000	Direct procurement of Personnel, Protective clothing and equipment
Australia		Through AusAID to invite two government veterinarian for training course
China	\$50,000	Re-establishing poultry breeding farms
France	\$53,745	For surveillance activities (OSRO/LAO/401/FRA)
Japan	\$404,040	MoFA through FAO Trust Fund (OSRO/RAS/401/JPN, total \$1,610,083)
	\$50,000	Through JICA
USA	\$250,000	Direct contribution to WHO Regional Office (Manila)
WHO		Support for one veterinarian for a 2 month mission

(As of 14/04/04. source: FAO Emergency Operations Service, JICA)

Pakistan

Donors	Amount (US\$)	Description
FAO TCP	\$390,000	TCP/PAK/3002 Emergency assistance for the control of avian influenza
China	\$50,000	For strengthening the diagnostic/samples analysis capacities of the national labs.

(As of 28/04/04. source: FAO representation in Pakistan)

Thailand

Donor	Amount (US\$)	Description
FAO		Technical advice of experts
Japan		Experts & standard Antigen/reagents to assist AI typing/sub-typing.

(As of 08/03/04. source: FAO representation in Thailand)

Viet Nam

Donors	Amount (US\$)	Description
FAO TCP	\$390,000	TCP/VIE/3003 Emergency assistance for the control of avian influenza
ADB	\$ 50,000	Protective gear
EC	\$968,000	Protective clothing, lab equipment
Germany	\$ 60,000	laboratory diagnostic equipment
Japan	\$200,000	Tamiflu (anti-viral drug)
	\$401,750	MoFA through FAO Trust Fund (OSRO/RAS/401/JPN, total \$1,610,083)
WHO		Unspecified
World Bank	\$170,000	Formulation mission for Avian Influenza Emergency Recovery Project
	\$5,000,000	Avian Influenza Emergency Recovery Project for strengthening disease surveillance and diagnostic capacity; strengthening the poultry sector infrastructure to better cope with serious disease outbreaks; and safeguarding human health by improving public awareness and information
Denmark	nearly US\$130,000	Through DANIDA, in kind cooperation for AI control in 14 provinces (sprayers, protective clothing, diagnostic kits for local veterinarians)
AFD		Assessment mission to support the HPAI situation in Viet Nam and to provide recommendations for short and long term by Agence Française de Développement (AFD), Centre de coopération internationale en recherche agronomique pour le développement (CIRAD) and Vétérinaires Sans Frontières (VSF) was funded by AFD

(As of 25/08/04. source: FAO representation in Viet Nam, the World Bank website, VSF)

Regional

Donor	Amount (US\$)	Description
FAO TCP	\$400,000	TCP/RAS/3004 Emergency regional coordination assistance for control of avian influenza in southeast Asia
FAO TCP	\$400,000	TCP/RAS/3006 Diagnostic Laboratory and Surveillance Network Coordination for Control and Prevention of Avian Influenza in Southeast Asia
FAO TCP	\$400,000	TCP/RAS/3007 Diagnostic laboratory and surveillance network coordination for control and prevention of avian influenza in East Asia
FAO TCP	\$400,000	TCP/RAS/3010 Emergency regional support for post-avian influenza rehabilitation

(As of 14/06/04. source: FAO Emergency Operations Service)