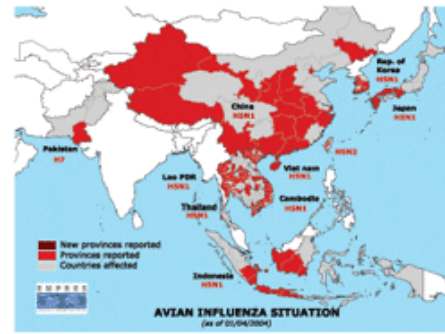
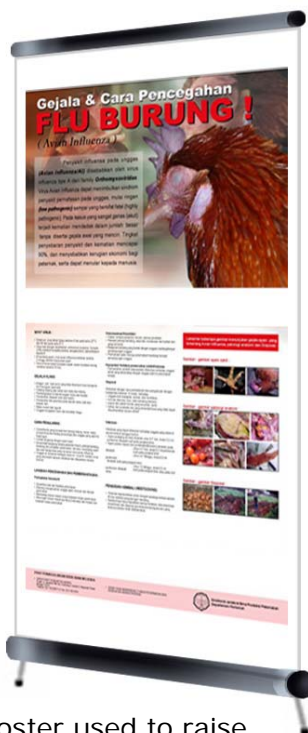


# FAO AIDEnews Avian Influenza Disease Emergency

## Update on the Avian Influenza situation (As of 1/04/2004) – Issue no. 10



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.



Poster used to raise public awareness in Indonesia

### 1. Summary of the situation

As of 1/04/04, Highly Pathogenic Avian Influenza (HPAI) - H5N1 has been reported in Viet Nam, Thailand, Cambodia, Lao PDR, Japan, the Republic of Korea, Indonesia and China. The number of countries affected remains the same since the last issue 9.

#### Highly Pathogenic Avian Influenza (HPAI) confirmed:

- **Thailand:** Four outbreaks during 12–19/03/04 in Ayutthaya, Chiangmai, Chonburi and Uttaradit provinces were officially reported on 22/03/04. (22/03/04 source: OIE web site)

#### Under investigation / rumours and suspicions / other information:

- **Canada:** A human case of H7 virus was confirmed in a Canadian Food Inspection Agency contract worker who was exposed while working with the dead chickens in a Fraser Valley poultry farm where outbreak. The person exhibited conjunctivitis and the symptoms have since cleared up. Ten other workers who have been working in the area in the past few weeks have also developed symptoms. So far seven farms were confirmed and additional one farm is quarantined in the Valley. (31/03/04 - source: gphin, ProMED, government website)
- **Mongolia:** 17 birds were found dead around Erdenetsagaan soum county of Suhbaatar aymag province. Further information has been requested. (11/03/04 - source: gphin)
- **South Africa:** An isolated outbreak of a low pathogenic strain found at 5 sites of one commercial poultry setup in the Malmesbury /Klapmuts region, Western Cape. (25/03/04 - source: ProMED)



Training on clinical & gross pathology diagnosis of AI for field veterinarians, Yogyakarta, 16-17/03/04

## Current situation

Declaration of new outbreaks culminated at the end of January and new cases were reported on a daily basis through mid-February when the number of outbreaks decreased (see Figure 1 and 2). The situation, although not yet under control, seems now stabilized. The last outbreak was reported on 23/03/2004 in the Republic of Korea. In other countries the situation remains unchanged.

Although Figure 1 and 2 do not necessarily reflect the true incidence of the disease from early January to mid March 2004, that provide an approximate idea of the epidemic curve once the disease was identified and notified by national authorities.

However, if control measures including animal culling, vaccination and movement management have been instrumental in reducing the incidence of the disease and bring it under control in many places, all surveillance and control efforts should be strengthened in the field and the situation monitored to detect all possible sources of infection (Early Warning) and in order to reach eradication. (source: consultant's reports', scientific publications)

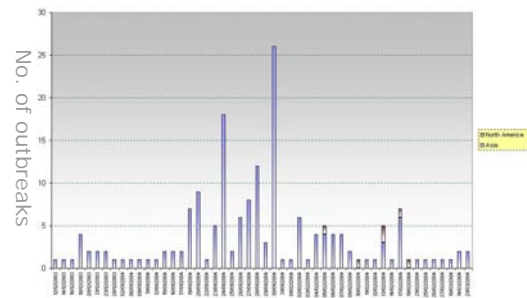


Figure 1: outbreaks suspected and confirmed sorted by date of disease observation in the field. (Blue: Asia, Brown: North America, source: member countries' declarations, official and non official sources of animal health data including newspaper services, press clips).

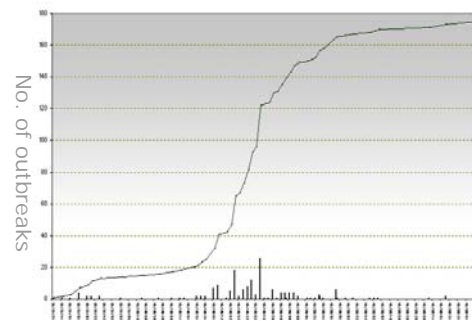


Figure 2: outbreaks suspected and confirmed sorted by date of disease observation in the field. Cumulative data (source: member countries' declaration, official and non official sources of animal health data including newspaper services, press clips).

**2. Countries affected (as of 1/04/2004)**

area	date declared to OIE	type	animals affected	human case	additional information	
					info.	source <sup>1)</sup>
Republic of Korea	17/12/03	H5N1	layer, duck; virus isolated: magpie	no		Government; web media
Viet Nam	8/01/04	H5N1	chicken, quail, duck, muscovik duck	yes		gphin <sup>2)</sup>
Japan	12/01/04	H5N1	chicken, crow	no		gphin, government
Taiwan province of China	20/01/04	H5N2	chicken, duck, pheasant	no	low pathogenic	gphin; meeting report
Thailand	23/01/04	H5N1	virus isolation: chicken, duck, goose, quail, turkey, stork	yes		gphin, FAO; government <sup>3)</sup>
Cambodia	24/01/04	H5N1	Chicken, duck, goose, turkey, guinea fowl, wild bird	no		FAO; government
Hong Kong SAR	26/01/04	H5N1	Peregrine falcon	no		gphin
Lao, PDR	27/01/04	H5N1	Chicken, duck and quail	no		FAO; government
Pakistan	28/01/04	H7N3 H9N2	layer	no	Only H7 is currently considered Highly Pathogenic	FAO; government
Indonesia	06/02/04	H5N1	Chicken, duck and quail	no		gphin, FAO; government
China	06/02/04	H5N1	virus isolation: chicken, duck, goose, quail, pigeon, pheasant, black swan	no		FAO; government
United States of America	11/02/04	H7N2	Chicken	no	Low pathogenic	Delaware Department of Agriculture Statement; FAO
		H2N2	Chicken	no	Low pathogenic	ProMED; Pennsylvania Department of agriculture website
	23/02/04	H5N2	Chicken	no	High pathogenic	Texas Animal Health Commission and USDA website; FAO
		H7N2	Chicken	no	conducting study	Maryland Department of Agriculture News Release; FAO
Canada	19/02/04	H7N3	Chicken		Low pathogenic	gphin
	09/03/04	H7N3	Chicken	yes	High pathogenic	gphin
Netherlands		H7	Chicken	no	antibody against avian influenza found	FAO; gphin; ProMED

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

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

3) FAO; government: FAO representative in concurrence with Government sources

### 3. Actions taken – follow-up

#### ➤ **Technical Cooperation Programme (TCP) projects:**

FAO Technical Cooperation Projects (TCP) for Viet Nam, Cambodia, Lao PDR, Indonesia, China and Pakistan are operational as well as a regional TCP for Asia. A new regional TCP titled “Diagnostic laboratory and surveillance network coordination for control and prevention of avian influenza in Southeast Asia” was approved by countries concerned on 29/03/04 and will soon be operational. This sub-regional TCP provides assistance to improve capacity of their national animal disease diagnostic laboratories and epidemiology units for diagnosis and detection of avian influenza including harmonization of laboratory methods and reporting, and to have better understanding of the disease risk factors. Similar regional TCPs on diagnostic laboratory and surveillance networking for South Asian countries is to be approved waiting for a signature of one country concerned, and one for East Asian countries is also awaiting approval by one country. Additionally, a regional TCP for rehabilitation to assist avian influenza infected countries in Southeast Asia to have better bio-secured poultry production systems is awaiting country approval.

#### ➤ **The 3rd Donor Coordination Meeting was held in Indonesia 24/03/04**

Indonesia organises a series of donor meeting to provide information on the situation and the needs to tackle avian influenza. The third meeting was held on 24 March 2004 chaired by Mr. Tsukasa Kimoto, FAO Representative in Indonesia, and co-chaired by Dr. Georg Pedersen, WHO Representative in Indonesia. The meeting was attended by 23 participants with the participation of officials from the Ministry of Agriculture, and from the Ministry of Health. Current situation, strategies, vaccination, training, public awareness campaign and compensation plan were presented in the meeting.

#### ➤ **Assistance from other countries** (see annex)

Many donors provide emergency assistance to help governments to control HPAI outbreaks in their respective countries through financial, in kind or through technical assistances. It appeared that it could be useful to gather information on the support provided. FAO accepted to do that and to publish it in AIDE news. We wish to thank all donors and governments for their cooperation in providing additional and complementary information.

#### ➤ **Recent Missions (February - March):**

##### [Regional]

- Dr. L. Gleeson (Australia), Australia Animal Health Laboratory, CSIRO, international expert in epidemiology and emergency management. special FAO consultant. Mission to Thailand, China, and Viet Nam. Ongoing.
- Dr. H. Wagner, FAO Regional Office (Bangkok) Senior Animal Production and Health Officer. Mission to India for the SAARC meeting 16/02/2004
- Dr. T. Damrongwatanapoki (Thailand) GIS Information Technologist. Mission to Cambodia, Viet Nam. To commence in the week of 29/03/04.

##### [Lao PDR]

- Dr. R. Webb (Australia), International expert in epidemiology and programme management. Mission to Lao PDR. Ongoing.
- Dr. C. Benigno, FAO RAP (Bangkok) Animal Health Officer. Mission to Cambodia. 8 – 13/03/04
- Dr. C. Benigno, FAO RAP (Bangkok) Animal Health Officer. Mission to Cambodia. To commence in the week of 05/04/04

##### [Thailand]

- Dr. D. Swayne (USA), Pathologist, Avian influenza and other exotic or emerging poultry diseases, Southeast Poultry Research Laboratory, USDA/Agricultural

Research Service, OIE expert in collaboration with FAO, Mission to Thailand 9-17/02/2004

[China]

- Dr. L. Sims (Australia), international expert in disease management and Avian Influenza. Mission to China. 29/02 - 20/03/04
- Dr. H. Wagner, FAO Regional Office (Bangkok) Senior Animal Production and Health Officer. Mission to China. 29/02 – 02/03/04
- Dr. J. Domenech, FAO (Rome) Chief, Animal Health Service, Mission to China. 01 – 02/03/04

[Cambodia]

- Dr. C. Benigno, FAO RAP (Bangkok) Animal Health Officer. Mission to Cambodia 9 – 14/02/2004
- Dr. D. Geale (New Zealand), Programme Coordinator for Exotic Disease Response, MAF, expert in epidemiology and emergency management. Mission to Cambodia. 21/2 – 12/03/04
- Dr. Y. Froehlich (France) Project Technical Adviser. Mission to Cambodia. Ongoing.

[Indonesia]

- Dr. S. Morzaria, FAO Regional Office (Bangkok) Animal Health Officer. Mission to Indonesia. 8 – 17/02/2004
- Dr. H. Westbury (Australia), international expert in epidemiology. Mission to Indonesia. 16/02 – 10/03/04.
- Dr. L. Allen (USA) Veterinary Epidemiologist. Mission to Indonesia. To commence in the week of 29/03/04

[Viet Nam]

- Dr. T. Forman (Australia), international expert in epidemiology and emergency management. Mission to Viet Nam. 15/02 – 07/03/04
- Dr. P. Blanc (France), international expert in project analysis. Mission to Viet Nam. 17/02 – 04/03/04
- Dr. G. Freeland (UK), international expert in project analysis. Mission to Viet Nam. Ongoing.
- Dr. H. Benard (New Zealand), international expert in epidemiology and emergency management. Mission to Viet Nam. Ongoing.

[Pakistan]

- Dr. J. Lambers (Netherlands), international expert in poultry diseases and epidemiology. Mission to Pakistan. 20/02 – 11/03/04
- Dr. I. Claassen (Netherlands), international expert in vaccine production and regulatory aspects of disease control. Mission to Pakistan. 15 – 25/02/04

## 4. Related issues

### ➤ History of H5N1 virus circulation in South-East Asia before 2004

H5N1 viruses are known to occur in Asia and have been isolated from free ranging wildlife at several intervals throughout the years. HPAI (H5N1) has certainly been present in the region since the first detection of the infection in geese in 1996 (Guangdong province of China) but the analysis of the biological character of previous isolates of H5N1 would be a priority to understand the current epidemic.

After its first detection in 1996 in Guangdong province, the disease broke out in Hong Kong in 1997. A Goose/GD/96-like virus was later considered to be the origin of the H5 component of the 1997 Hong Kong H5N1 virus. The disturbing event of the 1997 epidemic was the transmission of the disease to humans (confirmed in 18 people), leading to the deaths of 6. The same year, the virus was also detected in geese in Guangdong province.

From 1999 onwards, virus circulation was detected in Hong Kong in avian species through blood testing, swabbing of cages and testing of faecal samples. It appeared that the number of H5N1 virus isolations from ducks and geese increased from 1999 to 2001.

In late 2000, the virus changed genetically, incorporating new genes from other influenza viruses. These genes were believed to be from influenza viruses derived from other aquatic birds. "Further, viruses isolated from a goose and a duck in December 2000 have acquired NS, PA, M, and PB2 genes from the aquatic avian influenza gene pool through reassortment. For pandemic preparedness, it is important to monitor whether these reassortant viruses have the capacity for interspecies transmission to terrestrial poultry or mammals." (H5N1 influenza viruses isolated from geese in South-eastern China: evidence for genetic reassortment and interspecies transmission to ducks. Guan Y. *Virology*. 2002 Jan 5; 292(1):16-23).

In May 2001, an avian H5N1 influenza virus was isolated from duck meat that had been imported to the Republic of Korea from China (Characterization of a highly pathogenic H5N1 avian influenza A virus isolated from duck meat. Tumpey TM et al. *J Virol*. 2002 Jun; 76(12):6344-55.).

In 2002, mortalities of wild birds due to HPAI were reported in Hong Kong. This was the first report of deaths in wild birds in Asia. An H5N3 virus was isolated from dead terns in 1961 in South Africa but, in other parts of the world, avian influenza viruses isolated from wild birds are low pathogenic.

In January 2003, the mortality extended to waterfowl (flamingo) in Kowloon Park, Hong Kong and later in the year (May 2003) the H5N1 virus was also detected in Japan in imported duck meat (ProMED 12/05/2003).

(source: consultant's reports', scientific publications)

#### ➤ **Thailand AI status**

Thailand was amongst the hardest hit countries in the Region with over 36 million birds which have died or which have been destroyed during the control activities. Together with Viet Nam, Thailand was the country with human fatalities (8 in total). The avian flu has hit 41 out of the 76 provinces in the country and had a disastrous effect on export and domestic consumption. The control measures put in place were based on the OIE recommendations i.e. compulsory culling and movement control. The outbreak can now be considered principally contained. The post outbreak surveillance scheme however has identified new outbreaks (end period of report 19 March 2004, source: Department of Livestock Development, Thailand): One outbreak each was confirmed in Chiang Mai province (north), Uttaradith province (north), Ayutthaya province (central) and Chonburi province (east). Layer chickens and ducks were affected in these outbreaks and a total of 29,405 birds were destroyed. Another report from the Coordinating Center for AI Control (private sector) stated that, in Chonburi province alone, over 20,000 chickens were recently destroyed after the AI infection was confirmed on 18 March 2004 in layer chickens. (source: *The Daily News*, 30 March 2004). This re-emergence of the disease has adjourned the government's intention to declare the country free of AI. The consumers' confidence in eating poultry meat and eggs has been regained.

#### ➤ **AI status in the United States of America, Canada and the Netherlands**

In the United States of America (USA), the first avian influenza outbreak was reported in Delaware State, part of Delmarva Peninsula, on 06/02/04. Epidemiological investigation, including trace back of marketed chicken, was conducted and about 85,800 poultries in two farms were slaughtered. The result of laboratory testing

indicated low pathogenic avian influenza (LPAI) H7N2 infection. Another outbreak of H7N2 was reported at a farm in Maryland State on 09/03/04. Another farm was found infected in Pennsylvania during routine surveillance testing in early February 2004 and confirmed as LPAI H2N2 infection on 13/02/04.

On 20/02/04, an outbreak of avian influenza H5N2 was reported in Texas. Initially it was classified as low pathogenic then was changed to Highly Pathogenic Avian Influenza (HPAI) after the laboratory tests conducted at the national laboratory.

The HPAI outbreak was the first time since 1983/84 in the country. The government announced the declaration of extraordinary emergency on 23/03/04 to heighten the control measure at the maximum level. In the USA, transportation of poultry across the state boundary requires an animal health certificate and import permit of the destination state. As of 26/03/04, no interstate transport of poultry was permitted from the control zone in Texas.

On 19/02/04, an outbreak of LPAI virus (H7N3) in poultry was reported in a farm in the Fraser Valley, British Columbia, Canada. The farm was placed under quarantine and 16,000 birds were euthanized on 20/02/04. An active surveillance program was established. On 09/03/04, HPAI (H7N3) virus was discovered amongst the samples taken. The government declared the establishment of a control area which consists of 5 km "high-risk region" and 10 km "surveillance region" surrounding infected farms on 11/03/04. Afterwards several farms were found infected in the high-risk region. The government decided to cull some 275,000 poultries in the high-risk region on 24/03/04 to stop further spread of the disease. However, an infected farm outside of high-risk region but within the surveillance region was reported to be found on 29/03/04. A confirmed human case (conjunctivitis) and other similar cases were also reported from workers who joined the activities.

The Netherlands announced the slaughter of about 22,000 poultries on 13/03/04 after antibodies against avian influenza were found in routine testing sample. Further investigation revealed the presence of avian influenza antibody in two other farms and an additional 1,100 birds were slaughtered. No clinical case in poultry was found so far.

The total number of the poultries slaughtered is about 458,000 in the North America and about 23,000 in the Netherlands.

Lessons learned: 1) Decision to cull the poultries was made within hours (not days) after tests showed the presence of virus/antibody, 2) Trace back of live poultry was conducted, 3) Control of movements were effectively put in place (even inter-state transport of poultry requires permit in the USA).

Quick decision making can only be possible if the contingency plan is available and approved before an outbreak occurs. Trace back is possible if appropriate trade records exist, and such records can only be made when it is defined legally.

There is no link between those cases and the recent highly pathogenic avian influenza (H5N1) outbreaks in Asian countries.

(source: government websites, state websites, gphin, newspaper websites)

## 5. Resources available

### Relevant articles/publications:

#### ➤ **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 Emergency Regional Meeting on Avian Influenza Control in Animals in Asia (26-28 February).**
- The full text of the recommendations made by the participants is available on: [http://www.fao.org/ag/againfo/subjects/en/health/diseases-cards/avian\\_recomm.html](http://www.fao.org/ag/againfo/subjects/en/health/diseases-cards/avian_recomm.html)
- **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](http://www.fao.org/newsroom/common/ecg/36647_en_experts.pdf)
- 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](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 - 9)  
(Available at: [http://www.fao.org/ag/AGA/AGAH/EMPRES/tadinfo/e\\_tadAVI.htm](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](http://www.fao.org/ag/AGA/AGAH/EMPRES/maps/e_maps.htm))

### Relevant Web sites:

FAO Avian Influenza fact sheet:

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

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

[http://www.oie.int/downld/AVIAN%20INFLUENZA/A\\_AI-Asia.htm](http://www.oie.int/downld/AVIAN%20INFLUENZA/A_AI-Asia.htm)

OIE Technical Disease Cards:

[http://www.oie.int/eng/maladies/fiches/a\\_A150.htm](http://www.oie.int/eng/maladies/fiches/a_A150.htm)

WHO Avian influenza web site:

[http://www.who.int/csr/disease/avian\\_influenza/en/](http://www.who.int/csr/disease/avian_influenza/en/)

EU Public Health web site:

[http://europa.eu.int/comm/health/ph\\_threats/com/Influenza/influenza\\_en.htm](http://europa.eu.int/comm/health/ph_threats/com/Influenza/influenza_en.htm)

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**Annex****- Donors Assistance –**

Many donors have decided to commit emergency assistance to help governments to control HPAI outbreaks. FAO AIDEnews is collecting information on donor assistance (financial, in kind or technical assistance) through FAO representations in Asian countries (summary provided below). The data shown in this issue might be incomplete. Therefore, we wish to thank all donors and governments for their anticipated cooperation in providing additional and complementary information. This table was kindly prepared by TCEO.

**Recipient countries:****Cambodia**

<b>Donors</b>	<b>Amount (US\$)</b>	<b>Description</b>
FAO TCP	\$390,000	TCP/CMB/3002 Emergency assistance for the control of avian influenza
Asian Development Bank	\$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
China	\$50,000	Direct contribution to government (no details given)
France	\$57,600	French Cooperation through FAO Trust Fund
Germany	\$50,000	GTZ through FAO Trust Fund
Japan	\$99,380	Non-Trust Fund, grant assistance for grass-roots human security project for antiviral medicines
	\$402,176	Through OSRO/RAS/401/JPN "The Japan/FAO Joint Emergency Programme for the Control of Avian Influenza in Cambodia, Indonesia, Lao PDR, Viet Nam" (total \$1,610,083)
WHO	\$3,000	In the form of PPE supplies and PPE and lab training for DAHPs investigating teams and Human Flu Vaccine purchase. Combined PPE training by WHO human health and lab consultants and Ministry of Health officials.

(As of 31/03/04. source: FAO representation in Cambodia)

**China**

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

(As of 04/03/04. source: FAO Emergency Operations Service)

**Indonesia**

<b>Donors</b>	<b>Amount (US\$)</b>	<b>Description</b>
FAO TCP	\$390,000	TCP/INS/3001 Emergency assistance for the control of avian influenza
Australia	\$250,000	Human health protection through WHO
China	\$100,000	Vaccines and training
Germany	\$61,000	(Euro 50,000) OSRO/INS/402/GER through FAO Trust Fund for purchase of anti sera and training

**Indonesia** (continued)

Donors	Amount (US\$)	Description
Japan	\$78,906	From Grass Roots Aid Fund for protective gears through the Ministry of Agriculture
	\$113,000	Public awareness campaign activities
	\$10,000	From JICA/Indonesia for training workshops
	\$402,117	Through OSRO/RAS/401/JPN "The Japan/FAO Joint Emergency Programme for the Control of Avian Influenza in Cambodia, Indonesia, Lao PDR, Viet Nam" (total \$1,610,083)
Netherlands	N/A	May provide veterinary experts in support of FAO operations.
USA	N/A	Support through the provision of laboratory analysis available in Atlanta

(As of 31/03/04. 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
Asian Development Bank	\$50,000	(In-kind) Direct procurement of Personnel, Protective clothing and equipment
China	\$50,000	Re-establishing poultry breeding farms
France	\$53,745	(Euro 44,000) for surveillance activities
Japan	\$404,040	Through OSRO/RAS/401/JPN "The Japan/FAO Joint Emergency Programme for the Control of Avian Influenza in Cambodia, Indonesia, Lao PDR, Viet Nam" (total \$1,610,083)
USA	\$50,000	Through JICA
WHO	\$250,000	Direct contribution to WHO Regional Office (Manila)

(As of 31/03/04. source: FAO Emergency Operations Service)

**Pakistan**

Donors	Amount (US\$)	Description
FAO TCP	\$390,000	TCP/PAK/3002 Emergency assistance for the control of avian influenza
China	\$50,000	(No details given)

(As of 11/03/04. source: FAO representation in Pakistan)

**Thailand**

Donor	Amount (US\$)	Description
		Unspecified

**Viet Nam**

<b>Donors</b>	<b>Amount (US\$)</b>	<b>Description</b>
FAO TCP	\$390,000	TCP/VIE/3003 Emergency assistance for the control of avian influenza
Asian Development Bank	\$ 50,000	Protective gear
EU	Euro 800,000	Protective clothing, lab equipment
Germany	\$ 15,000	Protective gear
Japan	\$200,000	Tamiflu (anti-viral drug)
	\$401,750	Through OSRO/RAS/401/JPN "The Japan/FAO Joint Emergency Programme for the Control of Avian Influenza in Cambodia, Indonesia, Lao PDR, Viet Nam" (total \$1,610,083)
WHO		unspecified
World Bank		Formulation mission for Avian Influenza Emergency Recovery Project

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

**Regional**

<b>Donor</b>	<b>Amount (US\$)</b>	<b>Description</b>
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 (E) Diagnostic Laboratory and Surveillance Network Coordination for Control and Prevention of Avian Influenza in Southeast Asia

(As of 1/04/04. source: FAO Emergency Operations Service)

\* in kind: Payment made in the form of goods and services, rather than cash.