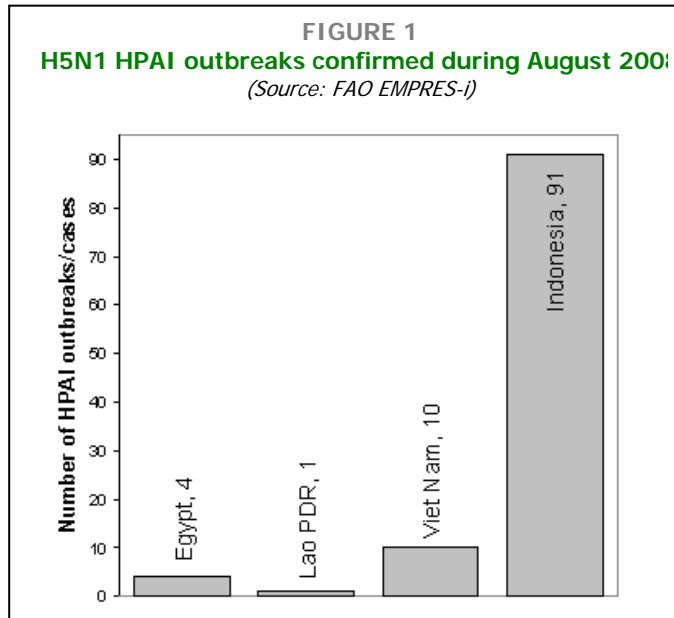


This overview is produced by the FAO-GLEWS team, which collects and analyses epidemiological data and information on animal disease outbreaks as a contribution to improving global early warning under the framework of the Global Early Warning for Transboundary Animal Diseases (TADs) including Major Zoonoses. [glews@fao.org](mailto:glews@fao.org)

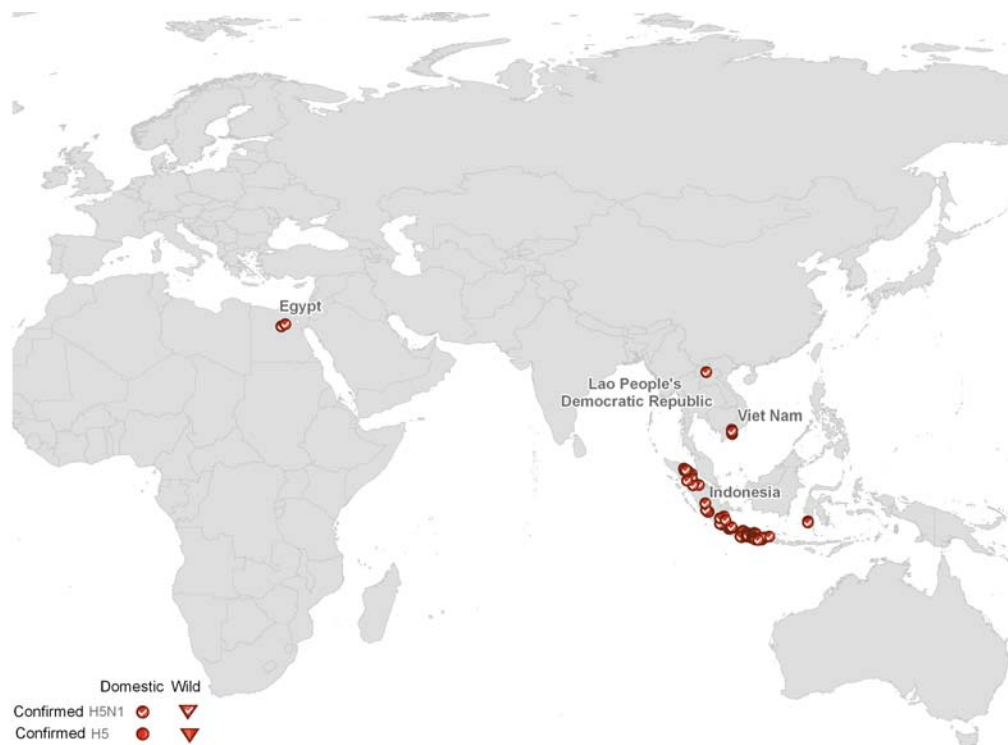
### WORLDWIDE



In August 2008, 106 outbreaks/ cases of H5N1 HPAI were reported in four countries (Egypt, Indonesia, Lao People's Democratic Republic and Viet Nam). The number of reported outbreaks/cases per country and the geographical locations are illustrated in Figures 1 and 2 respectively. No cases were reported in wild birds during August 2008.

The evolution of the number of reported cases over the last six months by continent and by species group (wild or domestic) is represented in Figures 3 and 4 respectively. For the same period, the number of human cases reported to the World Health Organization (WHO) is illustrated in Figure 5.

**FIGURE 2**  
**H5N1 HPAI outbreaks in poultry and cases of H5N1 infection in wild birds reported in August 2008**  
 (Source: FAO EMPRES-i)



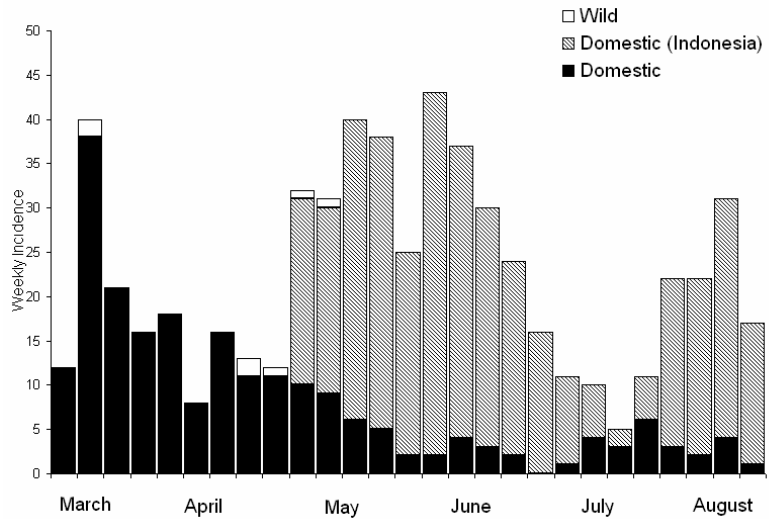
Prepared by GLEWS team in FAO

**NOTE:** H5 cases are represented for countries where N-subtype characterization is not being performed for secondary cases or if laboratory results are still pending. Countries with H5 and H5N1 occurrences only in wild birds are not considered infected countries according to OIE status. The original data have been collected and aggregated at the most detailed administrative level and for the units available for each country.

**FIGURE 3**

**Weekly numbers of HPAI (H5N1) outbreaks in poultry compared with cases of H5N1 infection in wild birds reported between March and August 2008**

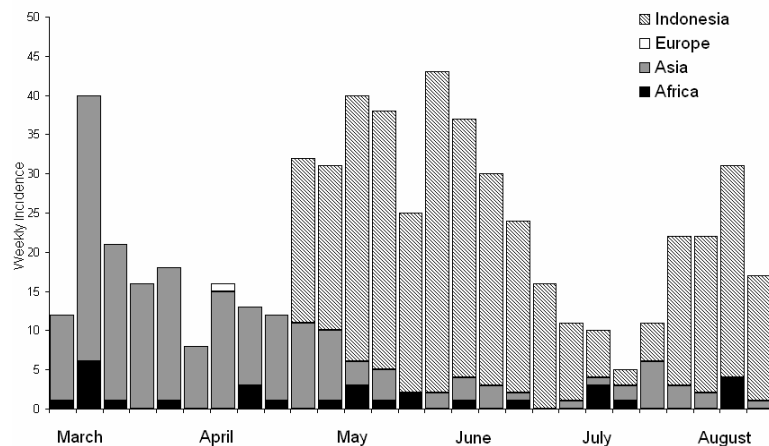
(Source: FAO EMPRES-i; Indonesia PDSR data are included only from May onwards, which is when the epidemiological unit definition was modified from household level to village level)



**FIGURE 4**

**Weekly combined numbers of HPAI (H5N1) outbreaks in poultry and cases of H5N1 infection in wild birds per continent reported between March and August 2008**

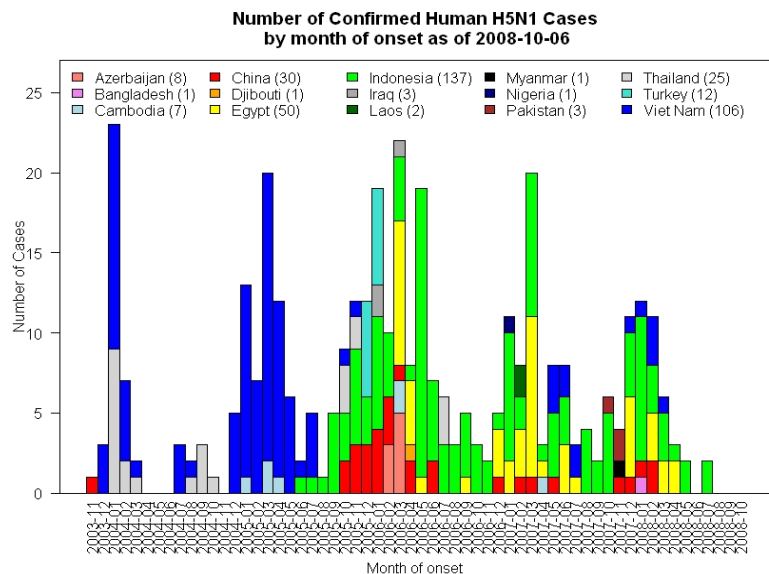
(Source: FAO EMPRES-i; Indonesia PDSR data are included only from May onwards, which is when the epidemiological unit definition was modified from household level to village level)



**FIGURE 5**

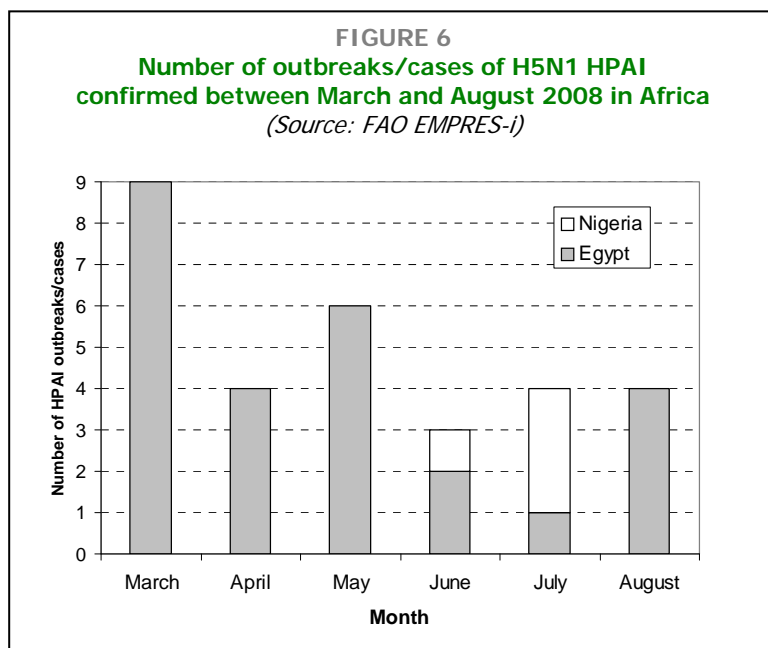
**Current situation of H5N1 in humans**

(Source: World Health Organization)



\* PDSR case definition in Indonesia: When active outbreaks are encountered where more than one bird died, with or without clinical signs, the Participatory Disease Surveillance and Response (PDSR) teams carry out an influenza type A rapid test. A mortality event consistent with clinical HPAI and a positive rapid test in affected poultry is considered a confirmed detection of HPAI in areas where HPAI has previously been confirmed by laboratory testing.

The Indonesia data is not included in Figure 9 and is only partially included in Figures 3, 4 and 7, because the epidemiological unit definition was modified from "household" to "village" level in May 2008, and are therefore not comparable to previous data.



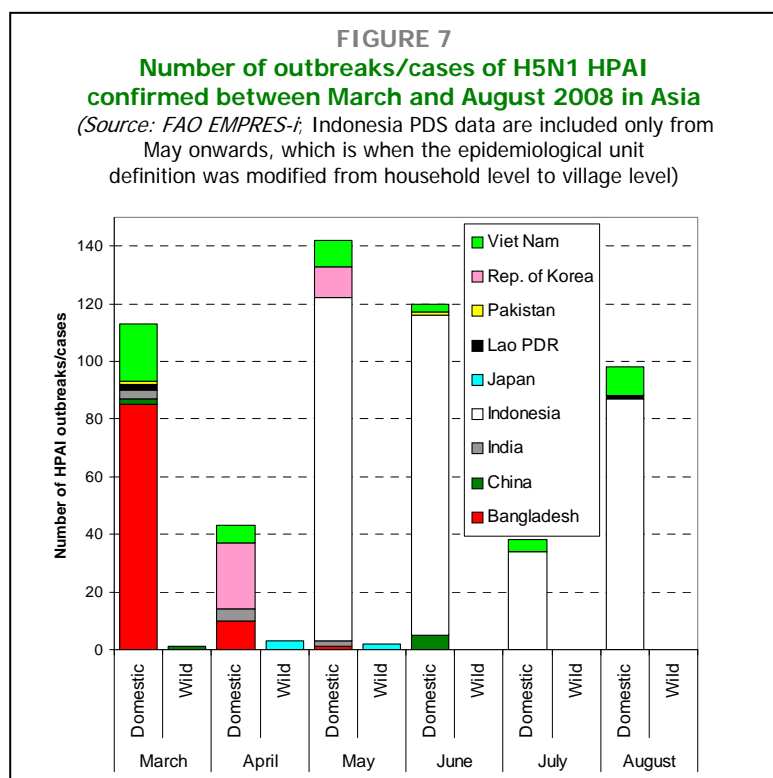
## Africa

Confirmed outbreaks of HPAI in Africa are presented in Figure 6. The suspected outbreaks in **Benin** were found to be negative after analysis at the OIE/FAO reference laboratory for Avian Influenza (Padova) and at the WHO Collaborative Centre for Avian Influenza (Memphis). Benin's Veterinary Services informed the OIE that the initial H5N1 HPAI outbreak in Lokossa (29 July 2008) was a misdiagnosis.

In **Egypt**, the current HPAI epidemic was first confirmed on February 17 2006. Since then, the disease has been reported in 22 out of 29 governorates. Vaccination campaigns have been undertaken mainly in commercial farms. Occurrence of outbreaks continues and four H5N1 HPAI outbreaks were confirmed in Minya governorate during August 2008 by the National Laboratory.

In **Nigeria**, after the re-emergence of H5N1 HPAI in June and July, no additional disease events were reported during the month of August. It still remains unknown how the strain of the EMA3 sublineage was introduced to the continent, whether through movements of wild birds or commercialization of domestic poultry.

## Asia



Confirmed outbreaks of H5N1 HPAI in Asia are presented in Figure 7. **Indonesia** has experienced a high number of cases of H5N1 HPAI outbreaks in poultry in the last three years. HPAI remains endemic in Java, Sumatra, Bali and South Sulawesi with sporadic outbreaks reported from other areas. HPAI infection is considered to be established throughout most of Indonesia, though with widely varying prevalence, and only two of its 33 provinces are considered to be free of infection.

The high figure of reported cases for Indonesia can be explained by the implementation of the 'participatory disease search and response' (PDSR) programme that targets backyard village type poultry production systems and has been very effective in detecting evidence of virus circulation. The programme uses participatory techniques combined with an influenza type A rapid test to identify cases of HPAI. The programme is supported by FAO and is operating in 331/448

districts through 31 local disease control centres (LDCCs) in 27 provinces in Java, Sumatra, Bali, Sulawesi and Kalimantan. Outbreaks have been reported infrequently from the eastern provinces, where it is likely that H5N1 HPAI is more sporadic in the smaller, more dispersed poultry populations. The new database for the PDSR system in Indonesia has been modified since 1 April 2008 and it is now being updated using the village as the epidemiological unit. Individual household reports are therefore now consolidated and reported as lesser numbers of village-level outbreaks.

On 10 September, the Ministry of Health retrospectively announced two fatal cases of H5N1 infection in humans in Banten province. Both victims developed symptoms and died during July 2008 (Figure 5). Of the 137 cases confirmed to date in Indonesia, 112 have been fatal.

In **Lao PDR**, after no HPAI activity since March 2008, an outbreak was detected on 27 August in Nambak, Luang Prabang, in ducklings in a small commercial unit within a village with backyard poultry. The ducks had been purchased from the neighbouring province, Oudomxay, bordering China. A surveillance zone with a 5-km radius was drawn around the suspected farm of origin in Oudomxay. Although no positive animals were found on that farm, on 1 September, a second outbreak with very low daily mortality (2%) was reported in one flock which also originated from the same farm in Oudomxay. In February 2008, there were already some rumours of HPAI activity in southern China (Yunnan province) connected to an outbreak in Laung Namtha Province in Northern Lao.

In **Viet Nam**, the disease is believed to be endemic and vaccination is being implemented throughout the country to assist with control. The HPAI vaccination strategy for 2009-10 is currently being finalized. In August, 10 outbreaks were reported in poultry, compared to 4 in the previous month. Under-reporting may partially account for the missing links in an ongoing chain of infection within the national poultry flock, giving the impression of 'sporadic' outbreaks.

No H5N1 HPAI outbreaks were reported in August 2008 in **Bangladesh, China, India, Pakistan** or in the **Republic of Korea**.

Other Asian countries such as **Bhutan, Cambodia** and **Iraq** did not experience outbreaks of HPAI, but regularly reported the negative results obtained from their surveillance activities and suspected cases. **Bhutan** produces a clinical surveillance report on a weekly basis for each administrative level, which is published on-line at <http://www.moa.gov.bt/birdflu/main/reports.php?show=all>. **Cambodia** is using an animal health hotline activity to receive reports on suspicions or cases from the field. **Iraq** reported the laboratory results of their surveillance activities for August for all governorates except Kurdistan province, in the north of the country. All samples taken were negative for H5N1 [poultry farms (742), backyard poultry (1,335), game and wild birds (178), and markets and slaughterhouses (149)]. All samples were negative for HPAI.

## Europe

The last cases in Europe were reported on 8 April 2008 in the Russian Federation in poultry and on 29 February 2008 in the United Kingdom in wild birds. In addition, Turkey reported one outbreak in poultry and one case in a wild bird in March 2008.

## CONCLUSIONS

Although the number of outbreaks does not differ much from previous years for the month of August, the distribution has been markedly reduced. Other than the new occurrence in Lao PDR, only three of the countries considered H5N1 HPAI endemic (Indonesia, Viet Nam and Egypt) continue to report outbreaks regularly. This regular report is explained because in those countries there is active surveillance for H5N1 in places or production systems at risk. In August 2006 and 2007, 6 and 8 countries reported HPAI outbreaks, which could suggest a reduction in the geographic distribution of the H5N1 strain for the period studied.

No European countries reported any H5N1 disease event during August, and three months have now passed with no known H5N1 activity. Nevertheless, previous months of August in 2006 and 2007 did show low HPAI activity: only one case in a wild bird in 2006 and 2 cases in wild birds plus one outbreak in poultry in 2007.

The reoccurrence of H5N1 HPAI in some countries after a long period without reporting outbreaks or an apparent 'epidemiological silence' implies either the reintroduction of the virus or that the virus is circulating without detection because surveillance is not sensitive enough. In some areas in Asia, where no occurrence of H5N1 HPAI has been reported in chickens, the results of disease surveillance indicate that the H5 HPAI virus remains well entrenched in the duck population. Results of phylogenetic analysis of viral isolates and thorough epidemiological investigations are essential to know the sources of virus under these conditions.

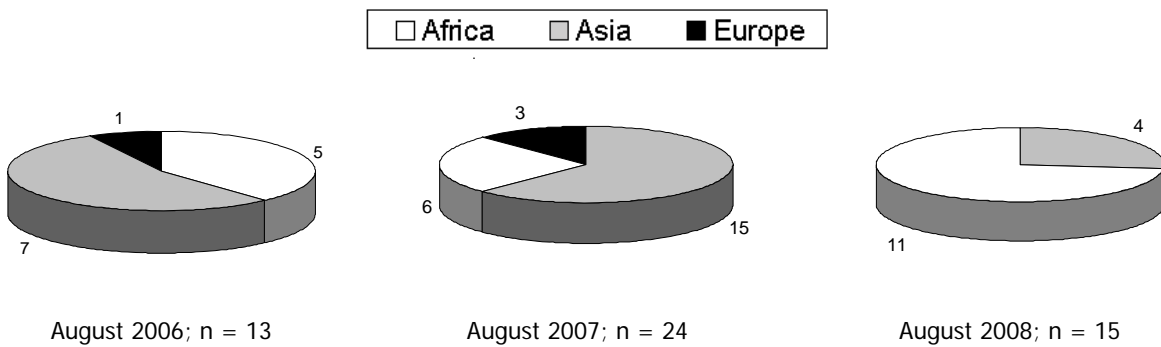
Although there has been an improvement in disease awareness, outbreaks/cases of HPAI are likely still underestimated and underreported in many countries because of limitations in the capacity of veterinary services to implement adequate disease surveillance, which may affect considerably the number and the shape of the distribution of outbreaks by country and region. The variability and sensitivity in space and time of HPAI surveillance systems makes it difficult to draw correct conclusions on the results and performance of reporting by countries affected by H5N1 HPAI. It is recommended that countries not only include their positive findings but also detail the negative findings in poultry and/or wildlife and number/location of samples analysed.

EMPRES welcomes information on disease events or surveillance reports on H5N1 HPAI (and other transboundary animal disease - TADs), both rumours and official information. If you want to share such information with us, please send a message to [empres-i@fao.org](mailto:empres-i@fao.org).

An animated map showing the evolution of outbreaks over the last six months including August 2008 is available at: [www.fao.org/ag/againfo/programmes/en/empres/maps.html](http://www.fao.org/ag/againfo/programmes/en/empres/maps.html).

**FIGURE 9**  
**Number and distribution of outbreaks of HPAI (H5N1)**  
**confirmed in August 2006, 2007 and 2008**

*(Source: FAO EMPRES-i; Indonesia data are not included, because of the epidemiological unit definition for the PDSR data was modified from household level to village level in May 2008)*



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