



## Stopping avian influenza

**The H5N1 virus has devastated Asia's domestic poultry, but has not yet changed into a form transmissible to humans. The "window of opportunity" to control and eradicate the disease is still open...**

This is how quickly bird 'flu can kill: in August 2003 a poultry trader in Central Java, Indonesia, reported that 7,000 of his chickens had died virtually overnight. Investigations revealed that the birds had been devastated by one of Indonesia's first outbreaks of Highly Pathogenic Avian Influenza (HPAI), caused by the aggressive H5N1 strain of the AI virus. Within months, avian influenza had exploded across Java and most other countries of Asia, causing, by November 2005, the deaths of more than 140 million domestic birds and economic losses of around \$10 billion.

In the same period, WHO reports, 126 people contracted the disease and 64 of them have died. While Southeast Asia remains the epicentre of the disease, outbreaks since July 2005 in Croatia, Kazakhstan, Mongolia, Romania, Russia and Turkey have confirmed the westward spread of the virus along the pathways of migratory birds.

**Global emergency.** "Avian influenza is now recognized as a global emergency with the potential to reach as far as Africa and, if the H5N1 strain acquires human-to-human transmissibility, to kill millions of people," says FAO's Chief Veterinary Officer, Joseph Domenech. At an international meeting in Geneva in November, delegates from over 100 countries called for financial and other resources to assist countries already affected by AI, as well as those most at risk, and to respond to the threat of a human pandemic.

FAO experts attending the meeting had a clear message on the strategy needed to control AI in animals and to protect humans. "The core of the problem is the circulation of the H5N1 virus in domestic poultry," said Samuel Jutzi, Director of FAO's Animal Production and Health Division. "Priority action for solving the problem is therefore at the level of the animal. This is the only way we can influence the likelihood of the H5N1 virus acquiring human-to-human transmissibility."



Jutzi said the "window of opportunity" for avoiding a human pandemic is still open - the virus has not yet re-assorted or mutated. "But there is no time to lose. The strategies, plans and practices for addressing the problem are available and have been agreed in detail. There is no technical justification for delaying implementation."

A strategy for the progressive control of HPAI, prepared by FAO and the World Organisation for Animal Health (OIE), says global action is needed because "all countries are at risk of being infected unexpectedly" and control of outbreaks is beyond the resources of a single country or region. Says Joseph Domenech: "AI is both a highly infectious, dynamically evolving disease and one that spreads rapidly across countries and continents. It has emerged and spread as a consequence of globalized markets, and may be transported by migratory birds. The disease threatens regional and international trade, the global poultry industry, and the livelihoods of millions of people, especially the rural poor."

The strategy's long-term vision is to minimize the global risk of HPAI in domestic poultry and humans. Over the next 10 years, FAO says, the spread of HPAI - mainly of the H5N1 strain - must be progressively controlled in domestic poultry of all infected countries in Asia and

and Eastern Europe, and prevented from affecting other regions and countries at high risk.

**Aggressive control measures.** The main challenge in the short term (from one to three years) is to prevent further spread of HPAI in countries already infected. Viet Nam must apply aggressive control measures - conventional culling, biosecurity and movement control, along with strategic vaccination of domestic poultry, particularly ducks. In Indonesia, massive emergency intervention is urgently needed, especially in densely populated Java. The mixed control strategies being implemented in China, which combine stamping out, biosecurity and vaccination, must be expanded to all affected areas and those at risk. In Thailand, the country's vast duck population remains a major concern, while Cambodia and Lao PDR will need to attack remaining pockets of infection.

Once the disease is reduced to localized *foci* in these countries, and contained or prevented in countries beyond Asia, a more focused approach can be mounted to eradicate HPAI from infected domestic terrestrial poultry. The medium-to-long-term strategy must consider all control measures, including vaccination, zoning and compartmentalization. For the long-term success, restructuring of the poultry sectors in the region will need to be seriously considered.

However, FAO cautions, "the great, uncertain factor now hampering this approach is the emergence of HPAI transmission over great distances, carried by migratory birds". Recent AI outbreaks in Eurasia show that H5N1 has expanded in a north-westerly direction, suggesting a role of wild birds in HPAI epidemiology. To prevent the disease spreading to AI-free countries, the long-term strategy foresees development of pro-active surveillance programmes and emergency preparedness plans for at-risk countries in Southeast and South Asia, and for countries newly at risk in Central Asia,

Eastern Europe and the Caucasus, the Middle East and Africa. Applying OIE standards for the international trade of poultry and poultry products will further assist in preventing the spread of the virus across continents.

**Capacity building, research.** The FAO/OIE strategy calls for strengthening national veterinary services and building human and physical resource capacities to respond to HPAI outbreaks and other newly-emerging zoonotic and transboundary animal diseases. Capacity building will include all aspects of disease control, as well as policy development and socio-economic impact analysis. Since the dynamics of the current HPAI pandemic remain unclear, the strategy will facilitate research into AI epidemiology and the efficacy of vaccines in domestic ducks, and promote development of improved vaccines and rapid diagnostic tests.

The global strategy will be implemented at national, regional and international levels. Country-specific projects have already been prepared for Pakistan, Indonesia, Lao DPR and Cambodia, and regional projects are being developed for Central Asia, East Europe and the Caucasus, the Middle East and Africa. FAO technical cooperation projects are providing immediate assistance to countries in most urgent need. These interventions will be underpinned by sub-regional support units and networks.

At the international level, coordination of national programmes and subregional networks will be under the umbrella of the Global Framework for the Control of Transboundary Animal Diseases (GF-TADs), a joint FAO/OIE initiative. The global programme will benefit from FAO's experience in successfully controlling and eradicating rinderpest in most of the world through its Global Rinderpest Eradication Campaign.