



# THE GLOBAL STRATEGY FOR PREVENTION AND CONTROL OF H5N1 HIGHLY PATHOGENIC AVIAN INFLUENZA

March 2007



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# Executive Summary

The *FAO-OIE Global Strategy for the Progressive Control of Highly Pathogenic Avian Influenza (HPAI)* was first developed by FAO and OIE in collaboration with WHO in response to a recommendation from the FAO/OIE Regional Meeting on Avian Influenza Control in Asia (23-25 February 2005, Ho Chi Minh City, Viet Nam). The strategy prepared in November 2005 was focused predominantly on control of the disease in East and Southeast Asia. Since then, the H5N1 HPAI situation has evolved dramatically.

The disease has spread widely in Asia, Central and Eastern Europe, the Near East and Africa, culminating in the current situation that is described in Annex 1. As of December 2006, it was estimated that over 240 million poultry had died or been culled worldwide due to H5N1 HPAI. The widespread nature of the disease, its mounting socio-economic impact, the increasing number of human infections and deaths and the potential threat of human pandemic influenza continue to underline the need for a global approach to H5N1 HPAI prevention and control. The revised Global Strategy presented here takes into account the accumulated experience of national, regional and global efforts to date and the lessons learned from various efforts to control the disease (summarized in Annex 2).

## GLOBAL PROGRESS IN HPAI CONTROL

Superficial appraisal indicates that HPAI has spread since late 2005 to affect many more countries. However, in reality, efforts over this period have been largely successful both in improving the HPAI situation in previously infected countries and in controlling or eliminating the disease in newly infected countries.

The situation has improved greatly in China, where outbreaks are now mostly limited to certain areas of the country. Progress in Thailand and Viet Nam, both of which experienced a high incidence of outbreaks in poultry and accompanying human infections has been substantial, with outbreaks in poultry now greatly reduced and almost complete success in preventing human disease. Indonesia has struggled to establish appropriate HPAI control mechanisms but systems are being developed, with support from many donors.

India, Pakistan, Afghanistan, Myanmar, South Korea and Japan have all experienced outbreaks of HPAI that were effectively controlled, although in some countries re-introduction of disease has occurred. Most of the countries experiencing outbreaks in Central Asia, Eastern Europe and the Middle East were also able to eliminate the disease although again there have been some recent fresh outbreaks of disease in Russia, Hungary and Turkey. In Africa, Egypt and Nigeria are both facing substantial challenges in achieving effective control of HPAI; they deserve particular international assistance, since such endemically infected countries represent the highest risk both for perpetuation of the disease and for possible emergence of virus strains with human influenza pandemic potential.

## **LESSONS LEARNED FROM TOOLS AND METHODS USED FOR HPAI CONTROL**

### **Risk factors**

It has become clear that countries with well developed veterinary services, with strong early disease detection and response capacities, can effectively control and eliminate H5N1 HPAI. Countries that have had most difficulty in achieving effective control are those with weak veterinary capacities and that face major risk factors such as high poultry population densities with poor biosecurity, particularly related to large smallholder production sectors and substantial duck populations. Internal movement of poultry, particularly through live bird markets and illegal movement across international borders, are major contributors to spread of the disease. Migratory waterfowl have been implicated in global spread of the disease, although the epidemiological significance of H5N1 virus infection of wild birds and other species, including pigs and cats, is not well established.

### **Disease surveillance**

It has become evident that many countries lack the expertise to develop and implement effective national HPAI surveillance plans and to collect and analyse data. These weaknesses have compromised efforts to clearly understand specific risk factors and disease epidemiology, poultry production and marketing systems, and to properly assess vaccination programmes. Additional technical support is required to strengthen national capacities and such support must be complemented by further strengthening of networks for information collection, analysis and dissemination at regional and global levels. Limited access to compensation funds and inefficient payment mechanisms discourage farmers from reporting suspicious disease occurrence.

### **Laboratory capability and capacity**

National veterinary diagnostic laboratory capacities are often poorly developed and resourced. OIE/FAO reference laboratories have made a significant contribution in supporting national laboratories but additional support is needed, especially at the regional level. There needs to be improved sharing of virus samples and sequence information globally and there are opportunities for national public health and veterinary laboratories to collaborate more strongly.

### **Containment of outbreaks**

While stamping out has proved effective for containing isolated outbreaks, efforts are compromised by weaknesses in poultry movement control and surveillance around outbreaks. There is an inadequate knowledge and capacity for safe and humane culling and disposal of infected poultry. As the incidence of outbreaks increases, disease control authorities can rapidly become overwhelmed through lack of resources.

### **Vaccination**

Vaccination has been an effective response in reducing HPAI incidence and virus load in the environment, thus minimizing the risk of further spread and human exposure to infection. Planning must anticipate the reinstallation of classical control measures such as stamping

out when the number of outbreaks is low. Vaccination has proved very effective in high-risk countries where re-introduction of disease is likely, but it must be conducted in accordance with guidelines, involve vaccines of assured quality and be accompanied by appropriate monitoring of immune response and infection status of vaccinated flocks.

### **Adjustment of poultry production and marketing chains**

In Asian countries where the disease has been present for a long period and where the greatest combination of risk factors are present, experience indicates that stamping out of infected flocks provides short-term improvements in HPAI status but does not guarantee long-term freedom. Appropriate changes are needed in poultry disease management practices on farms and to high-risk marketing practices such as uncontrolled movement of poultry through live bird markets.

### **Communication**

Communication serves as a facilitating mechanism for building an enabling environment, through which the global strategy for the prevention and control of HPAI can be successfully understood and implemented. In addition, despite recognition of the importance of public awareness and considerable efforts made to date, there has been only limited success in achieving the behavioral changes required to control HPAI. It has become very evident that over-reaction of communities to HPAI can have an adverse affect on poultry markets. Balanced, consistent and scientifically sound messages are needed to promote safe poultry production practices and appropriate consumer caution, without precipitating undue market disruptions.

### **MOVING TO A REVISED STRATEGY**

Experience and lessons learned at the global, regional and national levels in controlling H5N1 HPAI permit revision of the global strategy with greater understanding of the issues that need to be addressed and the means of achieving progress. The strategy identifies international initiatives at global and regional levels, and approaches that are appropriate for national implementation, in general terms but also in line with the HPAI status of individual countries.

### **THE VISION**

The strategy envisages a world with greatly reduced threat of H5N1 virus infection in poultry, leading to reduced public health risk, secured national, regional and global markets and trade in poultry and poultry products, and protection of an important element of the livelihoods of poor farming communities.

### **THE PRIORITIES**

To achieve this vision, three priorities related to country HPAI status must be addressed concurrently:

- In the small number of endemically infected countries, particular attention must be given to reducing the incidence of HPAI.

- In countries in which sporadic outbreaks are currently occurring, intensive efforts to eradicate the disease must be supported; given the current disease situation, this is possible.
- In countries particularly at risk of incursion or in countries suffering severe consequences as a result of incursion, HPAI preparedness and capacity for early detection and response must be improved.

## **STRATEGIC DOMAINS**

The strategy proposes approaches at the global, regional and national levels. The global and regional approaches are those that FAO and OIE will follow themselves and will advocate to other donor and implementing agencies in the search for a harmonized approach to addressing the needs. The national approaches outline principles that FAO and OIE recommend as appropriate to various country situations.

### **The global domain**

The goal is to provide global leadership in generating and providing sound technical and policy advice in coordinating and harmonising national, regional and global plans, and in improving the effectiveness and efficiency of programming and implementation of disease prevention and control.

The proposed activities focus on support to countries in planning and implementing their plans for HPAI prevention and control, including provision of technical advice and operational support, and international collaborative initiatives for supporting international research, surveillance, early warning and epidemiological analysis of disease outbreaks and information dissemination. The approach includes the development within FAO of the Emergency Centre for Transboundary Animal Diseases; within OIE, the establishment of the World Animal Health and Welfare Fund directed towards improving governance in veterinary services worldwide; and the establishment of the FAO/OIE Animal Health Crisis Management Centre to increase capacity for early response to significant disease events.

The strategy also calls for general political support at global, regional and national levels and mobilization of donor funding to address the needs of HPAI prevention and control.

### **The regional domain**

The goal is to enhance cooperation and collaboration among regionally-grouped countries through greater engagement and commitment from appropriate regional organizations for a harmonized and coordinated approach to control and eradication of H5N1 HPAI.

This approach focuses on the development of formal long-term and sustainable cooperation and collaboration, taking into account regional specificities, for the development of policies and regulatory frameworks related to regional trade in livestock and livestock products, harmonization of HPAI control strategies, HPAI surveillance and reporting and HPAI preparedness planning. Regional organizations, including OIE Regional Commissions and the elected Bureaus, are seen as the focal points for such initiatives, supported by OIE and FAO Regional Animal Health Centres, instituted with the coordination of regional GF-TADs steering committees. Strategic initiatives include building of regional capacity and enhancing the role of regional and sub-regional networks for epidemiological and labora-

tory expertise and networks of economists, social scientists and poultry production specialists. Regional laboratories will be identified and supported to provide reference services, reagents and training to national personnel.

### **The national domain**

The goal is to progressively define the status of countries within the priority categories and, for most of them, eliminate H5N1 virus circulation in poultry populations using livelihoods-sensitive approaches. In those countries in which HPAI is currently endemic, the disease will either be eradicated or greatly reduced in incidence, with its geographic and sectoral distribution well defined.

Recommendations are made for general measures that need to be addressed for HPAI prevention and control and specific measures that apply to different disease situations. The broadly applicable key measures are:

- strengthening of veterinary services and related national capability, including compliance with OIE standards and guidelines on quality and evaluation of veterinary services;
- poultry industry adjustment and changes in husbandry practices to improve biosecurity;
- strategic research initiatives;
- support for public communication; and
- provision of technical assistance, as required

Key among these is overall strengthening of national veterinary services, including OIE assistance in assessing veterinary services by established procedures, strengthening capacity for disease surveillance and epidemiological analysis, and improving operational capacity for disease control, for which early detection and rapid response are essential. Poultry industry adjustment proposals need to take into account not only the benefits of improved biosecurity but also the potential threat of adversely affecting the livelihoods of poor farmers. This threat must also be considered when designing control strategies. Public awareness must be supported to promote practices that limit the risk of HPAI transmission and reduce the risk of human exposure to H5N1 virus.

There are significant gaps in our understanding of the H5N1 HPAI virus and technologies and tools to control it. Thus the strategy promotes strategic research initiatives, including epidemiological studies of HPAI in different farming systems (including risk analysis and critical control point definition within market chains), continuous monitoring of variation in H5N1 virus characteristics, monitoring of wild bird involvement in H5N1 virus dissemination, development of new vaccines and diagnostics, and studies of the socio-economic and biodiversity impacts of H5N1 HPAI incursion and control.

### **IMPLEMENTING THE STRATEGY**

The strategy is designed as a guide to FAO and OIE programmes of support for HPAI prevention and control. However, it is also advocated to other global, regional and national implementing agencies and donors as a means of achieving uniformity of approaches. This is described in Annex 3, together with proposed milestones for monitoring progress in HPAI prevention and control.

The strategy will be implemented progressively over the next ten years, as funds become available, beginning with the highest priorities for 2006-2008. It will be coordinated jointly by FAO and OIE and harmonized with the WHO Strategic Action Plan for Pandemic Influenza 2006-2007\*.

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\* [http://www.who.int/csr/resources/publications/influenza/WHO\\_CDS\\_EPR\\_GIP\\_2006\\_2c.pdf](http://www.who.int/csr/resources/publications/influenza/WHO_CDS_EPR_GIP_2006_2c.pdf)

Although there remain serious gaps in knowledge, there has been an increased understanding of highly pathogenic avian influenza (HPAI) since the panzootic started in late 2003, and experience with various control approaches has allowed refinement of strategies at the global, regional and national levels. The revised global strategy presented here is based on the experience and lessons learned from the involvement of FAO and OIE in the global control of H5N1 HPAI over the last three years. The revised strategy provides the long-term vision and goals, identifies priorities and strategic approaches, and proposes short-, medium- and long-term actions at national, regional and global levels to control and ultimately eradicate the disease. This strategy has been developed in collaboration with WHO and a number of experts from OIE/FAO reference laboratories.