Highly Pathogenic Avian Influenza Control and Prevention in Viet Nam

Summary
The Government of the Socialist Republic of Viet Nam’s strong commitment to fighting Highly Pathogenic Avian Influenza (HPAI) is the reason for its success in containing the disease. Since the first HPAI outbreak in 2004, several donors and agencies including FAO have been supporting the Ministry of Agriculture and Rural Development through a focused intervention. The effort is continuing under the ‘Integrated National Operational Programme for Avian & Human Influenza 2006-2010’.

The key factors to the success of the intervention are:

National/international advocacy for capacity development: To comply with the World Organization for Animal Health/World Health Organization Guidelines, the government changed its culling activity control strategy from mass to focused culling.

Ownership and commitment: Since the onset of the disease, the government has shown a strong commitment to controlling the disease and has established a National Steering Committee, which still convenes on weekly basis.

Identification of national champions: The Ministry of Agriculture and Rural Development has been very active in channeling massive technical and human resources through its Departments of Animal Health and of Livestock Production.

Medium- to long-term time horizon: FAO has been working closely with the government since the outbreak of the disease in 2004.

Mix of intervention modalities: The combination of practical training, study tours, conferences/workshops and research activities has created important synergies at central and provincial levels.

Empowerment: The intervention put in place key administrative units, known as district Steering Committees.

1. Context

Since December 2003, five waves of Highly Pathogenic Avian Influenza (HPAI) have swept across 64 provinces of Viet Nam, resulting in over 51 million dead or culled poultry,\(^1\) which directly affected up to 11 million households involved in poultry production. Records show 94 cases of humans infected, with 42 deaths in 2004 and 2005. Since the beginning of 2008, five human cases have been confirmed, all of which were fatal.

A National Steering Committee for Avian Influenza (AI) control headed by the Ministry of Agriculture and Rural Development (MARD) was set up in January 2004. The continuous spread of the disease, affecting nearly all parts of the country in the first epidemic wave, prompted the Government of Viet Nam to adapt a control strategy of culling affected poultry in affected areas. The Government started a large scale, nationwide bi-annual vaccination policy/programme in late 2005 (March-April; September-October).

In February 2006, a National Task Force was established, comprised of officials from MARD and the Ministry of Health (MOH), as well as other related organizations. The government

\(^1\)During the first wave alone, 49 million were culled or dead.
started applying a national HPAI control strategy in accordance with the ‘**Integrated National Operational Programme for Avian and Human Influenza 2006-2010**’ or the ‘**Green Book,**’ which was prepared with technical assistance from FAO.

2. Development of intervention response measures

FAO’s ongoing AI programmes\(^2\) build on a three-phase government plan for the control and eradication of AI from poultry in Viet Nam. The government plan aims to control poultry production and change marketing practices, with an emphasis on culling, mass vaccinations, and improvement in bio-security.

FAO’s capacity building intervention consists of the following three phases:

(i) policy document development and awareness raising initiatives;

(ii) strengthening technical capacities for diagnosis, research, surveillance and vaccination by providing training, developing information systems and upgrading laboratory equipment;

(iii) poultry production restructuring and trading, through research activities, workshops and study tours.

2.1 Developing legal and policy documents

As HPAI prevention and control are heavily related to international coordination and cooperation, a United Nations (UN) multi-agency mission\(^3\) visited the country and, at the request of the government, helped formulate a draft of the National Preparedness Plan. A senior international consultant, who also takes part in the National Steering Committee for AI, was later assigned by FAO to submit the plan to the Prime Minister for approval, and officially disseminate it to international donors at a meeting organized by a joint government/UN programme in December 2005.

A “Green Book” was prepared, with FAO’s technical assistance, as a guiding document for all HPAI prevention and control in Viet Nam. It also served to raise awareness of animal health conditions related to AI, as well as encourage the production of communication materials. FAO also provided technical support to an editorial group led by a Minister of MARD to develop a Vietnamese “HPAI Prevention and Control Manual,” which is now distributed in 64 provinces.

Throughout 2007 and the first half of 2008, the UN joint programme was involved in preparing a series of legal documents\(^4\) that were to be issued by the government. The documentation process was a collaborative effort on the part of all the concerned implementing agencies, supported by national and international experts.

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\(^2\) Since the onset of the HPAI crisis (2004), FAO’s initial Technical Cooperation Programme (TCP) support to Viet Nam, amounting to US$ 1.9 million for five TCP projects, was followed with support from the Governments of the United States of America, Japan, Ireland and the UN Joint Programme. The latter is comprised of contribution from the governments of Australia, Canada, Finland, Japan, Luxembourg, New Zealand, Netherlands, Sweden, Switzerland and the World Bank, amounting to US$ 9.1 million. Additionally, the United Nations Development Programme (UNDP) contributed funds for programme and donor coordination, and the United Kingdom’s Department for International Cooperation (DFID) advanced funds through the DFID-UNDP Strategic Partnership Initiative to start up the Joint Programme, which involves MARD, MOH, FAO, UNDP and UNICEF.

\(^3\) The mission was composed of representatives of WHO, FAO, UNDP and the UN Office for the Coordination of Humanitarian Affairs (OCHA).

\(^4\) The series include: the Guidelines for HPAI response, the draft Indicators for HPAI Control Monitoring and Evaluation Framework, the revised National Strategy for prevention and control HPAI, the draft of Veterinary Ordinance (Law), the Guidelines for programme implementations for all the implementing agencies involved into the AI programmes, including the DLP which is approved by the MARD as an implementing agency.
2.2 Raising public awareness

Communication programmes are aimed at enabling veterinarians, para-veterinarians and frontline workers to communicate effectively and raise people’s awareness of HPAI prevention and control while conducting their field visits and community outreach activities.\(^5\)

The interventions include:

- a rapid assessment of the knowledge, attitudes and practices of frontline veterinary workers;
- the production of a documentary in English and Vietnamese that reflects Viet Nam’s experience in dealing with HPAI, and highlights to provincial and district policy/decision makers the importance of their role and action in HPAI prevention and control at the local level;
- an innovative multi-media communication project, providing fellowships to ten selected journalists (print media, photography and radio/video) who report on the livelihoods of farmers and other stakeholders affected by HPAI in Viet Nam. The aim of this initiative is to document and build a multi-media database of socio-cultural/socio-economic profiles of people whose lives are directly affected by HPAI. Audio-visual and print material/stories generated through this process will be used to develop training, advocacy and communication materials for a range of audiences including MARD staff, veterinarians, paraprofessionals, donors, journalists and the general public;
- technical support, provided by the Partnership for Avian and Human Influenza (PAHI), to develop a national strategic framework for AHI communication;
- a web-based data tool for updating HPAI outbreaks has also been initiated under the management of MARD.

2.3 Strengthening technical capacities for diagnosis, research, surveillance and vaccination

International and national consultants provided two-day classroom/field practice courses to veterinary services staff in 24 provinces. The material taught included: basic epidemiology, virus transmission, clinical signs, sample collection and submission for serological and virological testing, and information feeding. Training-of-Trainers was also conducted to address the lack of infrastructure and human resources in most areas, as a consequence of the very weak veterinary extension service.

FAO is organizing a series of workshops for provincial and district Steering Committees several provinces to promote better technical understanding of the disease situation. This is crucial given the importance of mobilizing their members into a rapid, disease outbreak response system. In addition, two five-day workshops on preventing disease incursion by means of movement control were organized in 2006. These workshops involved the staff of quarantine stations, customs officers and Vietnamese army personnel at the frontier along the border with China, where illegal poultry importation has always been a serious problem.

Under the guidance of an international consultant, the current infrastructure was reviewed and a disease surveillance model, Community Active Disease Surveillance, was developed in order to adapt to the HPAI epidemiological situation in Viet Nam. This model aims to strengthen the link between community para-veterinarians, and between communities and the Department of Veterinary Services. After being tested in four pilot provinces, it quickly expanded to 20 provinces.

\(^5\) Outreach activities include disease surveillance, disease investigation, disinfection, culling and vaccination campaigns.
A Transboundary Animal Disease (TAD) information system has been set up and adapted for Viet Nam’s needs. It is a web-based reporting system at the provincial level with backstopping from FAO. A number of training workshops for TAD-Info software were carried out for provincial staff.

With respect to vaccinations, steps have been taken to resolve challenges related to logistical limitations: appropriate storage capacity, temperature and backup power supply; and distribution of vaccine supplies.

A total of 210 vaccinator training sessions were carried out throughout the country using a video produced in Vietnamese with English sub-titles. The training, with instructors from OIE, included the analysis of pre- and post-vaccination surveillance. FAO also sponsored the participation of two Vietnamese delegates in the ASEM\(^6\) Avian Workshop held in Beijing in 2007, enabling them to share and discuss legal and technical issues, their experience and practice with vaccine development and application, and cooperative mechanisms with regards to HPAI control in a global context.

**Upgrading laboratories**

FAO works closely with the Department of Animal Health (DAH) to improve and upgrade laboratories, which are indispensable for isolating pathogenic animal viruses, particularly HPAI, and for confirming the emergence of a disease before initiating a rapid response to contain it. The process included: equipping nine regional labs with high bio-containment facilities and hands-on training in diagnosis conducted by an expert at the laboratories; organizing bi-annual technical workshops; and sending two National Institute of Veterinary Research (NIVR) staff to FAO/World OIE virus reference labs for three-week practical training courses in Australia.

2.4 **Poultry production - restructuring, trading, and consumption customs for protecting the livelihoods of poultry producers**

A bio-security approach\(^7\) helps prevent diseases such as AI and other poultry diseases from entering the country or from spreading to other neighborhoods, households and farms. It also helps improve the overall health of flocks, and reduces the risk of zoonotic diseases, such as salmonella, that can be transmitted from animals to humans.

FAO’s intervention in building capacities towards the improvement in bio-security levels for laboratories, quarantine stations and farms, includes:

- research on trade patterns on wild and migratory birds, and on the sale of exotic birds for human consumption; a survey of thirteen semi commercial farms, which have been identified on the basis of highly varied production patterns, as well as lack of awareness and required tools for implementing good bio-safety measures in poultry farming practices.

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\(^6\) The Asia-Europe Meeting (ASEM) is an interregional forum comprised of the European Commission, the 27 members of the European Union, the 13 members of the Association of South-East Asian Nations plus three regional groupings and, as of 2008, India, Mongolia and Pakistan.

\(^7\) Biosecurity is a strategic and integrated approach that encompasses the policy and regulatory frameworks (including instruments and activities) that analyze and manage risks in the sectors of food safety, animal life and health and plant life and health, including associated environmental risks. *Source: FAO Biosecurity Toolkit.*
• a series of workshops for farmers (under the instruction of national and international consultants) on basic bio-safety measures in “Free-grazing duck production to prevent and control HPAI”. In such workshops brief messages have been disseminated, such as basic washing with soap and water followed by simple disinfection destroys the virus and can virtually eliminate the risk of disease transmission;

• overseas study tours for government officials and national experts to foster exchange of information and experience in restructuring the poultry industry and HPAI control;

• the formal establishment of the bio-security working groups, co-chaired by FAO and the Department of Livestock Production-DLP, to support the coordination of State, NGO and private stakeholders in restructuring the poultry production process (covering legislation, farmer surveys, bio-security);

• operational research on improving activities and measures for cost effective HPAI prevention and control, conducted in cooperation with national (MARD) and international partners, such as the Wildlife Conservation Society, and the private sector.

3. Results

FAO’s intervention response measures have been laid out in the context of global and regional AI initiatives and their development in Viet Nam have progressed from establishing policy to involving several institutions (departments and sub departments, district steering committees) in the country.

In May 2006, the government approved the ‘Integrated National Operational Programme for Avian & Human Influenza 2006-2010 (OPI),’ commonly known as the ‘Green Book’. It lays out a comprehensive five-year plan, and creates a clear legal framework at the national level. In addition, AI communication programmes and strategies implemented in the country, have raised the awareness of policy makers, institutions and individuals who are involved in AI control and prevention activities.

Moreover, the surveillance and rapid response measures taken by local veterinary authorities/personnel have improved, as have the subsequent monitoring, early detection, diagnosis and control of HPAI and other trans-boundary animal diseases. These measures are supported by an efficient TAD-Info system, which has been accepted as the official reporting system for the country.

The intervention response measures of veterinary officials in the National Centre for Veterinary Diagnosis and in nine health laboratories of seven regions of Viet Nam have also improved. They gradually became capable of identifying variations in the viruses circulating in affected poultry flocks, and they are currently diagnosing HPAI on a routine basis. Thus, not only the intervention response measures of laboratory technicians were strengthened, but also those of the veterinary laboratory network itself, thanks to the establishment of an online portal for veterinary laboratories. The portal enabled users to share information about HPAI as well as other animal diseases, and test results easily.

This massive vaccination programme has been undertaken thanks to the cold-chain upgrading. It basically solved the vaccine storage problem in 12 provinces, and also prompted the government to further support “cold-chain” response measures by providing cold-room and portable electric refrigerators to another 27 provinces. The provinces have been properly
equipped for vaccination campaigns; the vaccination personnel have also been mobilized, trained and supported in implementing an effective post-vaccination surveillance strategy. However, one significant challenge is the degree of duck population immunity to available vaccines.

Furthermore, the first draft of the national M&E framework for poultry production restructuring has been issued. In addition, bio-security groups have been set up to apply long-term solutions to safer poultry production. The groups act as coordinating bodies among the involved stakeholders, which also empowers very important institutions, like the DLP, in the process of HPAI prevention and control. Finally, the DAH and DLP are more efficient in their advisory role with MARD and the government in matters pertaining to AI management and control of intervention response measures.

4. Critical factors leading to the successful development of intervention response measures

The factors that contributed to the success of the interventions were:

_National/international advocacy for the development of response measures_
In compliance with the guidance of the World Organization of Animal Health, the government policy shifted from mass culling to focused culling. This resulted in a critical need to strengthen intervention response measures, from policy-making levels to the operational level (improving veterinary services, vaccination, surveillance and coordination of various governmental agencies) and on to individual technical intervention response measures.

_Ownership and commitment_
The commitment of DAH and its responsibility, as a direct counterpart, for the immediate containment of HPAI, has gradually expanded to DLP and other implementing agencies, including MOH. The support of the media community in conducting communication activities to raise public awareness of HPAI has also been an important factor which kept the commitment strong.

_Identification of national champions_
MARD, through DAH and DLP, have been pioneers in the process of HPAI control and prevention, thanks to their nationwide technical and human resources, which have been channeled to the community level.

The media system, working efficiently under the direct supervision of the government, has also been an effective communication channel for building and maintaining community awareness of HPAI risk and for promoting the development of related policy, with the operational involvement of veterinaries and production facilities. However, excessive propaganda about success in controlling and decreasing the sporadic recurrence of HPAI might cause the community to underestimate the risk and undermine the results achieved.

_Medium- to long-term time horizon_
FAO has played an important role since the disease outbreak in providing international knowledge, expertise and funding that have helped the government in managing a timely and lasting response for HPAI control and prevention. In such regard, the development of guideline documents that serve as the legal framework for long-term HPAI control and
prevention have provided a vision to the Vietnamese government to achieve a situation in which the country no longer has a risk of such diseases.

**Mix of intervention modalities**

The direct intervention, at the policy level, through the development of legal and policy documentation on one hand, and the implementation of study tours on the other, along with important communication initiatives, created crucial cooperation among governmental institutions at different levels.

The combination of practical training, study tours and conferences/workshops for state-employed veterinarians and para-veterinarians, and experts from key laboratories, encouraged an exchange of information, which expanded to private veterinary practitioners. This is crucial for enhancing surveillance intervention response measures in the veterinary services and for quick HPAI containment and prevention. In addition, theoretical training was facilitated by equipping labs with efficient analysis and diagnosis tools, which can also be used for field operations (culling, etc).

**Empowerment**

Finally, FAO’s interventions have stimulated the creation of key administrative units, known as district Steering Committees, and have enabled the network of private veterinary practitioners to respond effectively. This is an important factor in developing active and efficient surveillance/monitoring and on the spot disease containment and it also encourages good production practices for safer long-term poultry production.

5. **Further reading and information**

1. Terminal Statement, TCP/VIE/3003 (E) “Emergency Assistance for the Control of AI”


11. Information from the website of FAO Viet Nam: http://www.fao.org.vn