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

February 2008

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FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS
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ABBREVIATIONS & ACRONYMS

ADB	Asian Development Bank
AGA	Animal Production and Health Division
ASEAN	Association of South East Asian Nations
AU-IBAR	African Union-Interafrican Bureau of Animal Resources
CMC/AH	Crisis Management Centre – Animal Health
ECTAD	Emergency Centre for Transboundary Animal Diseases
EMPRES – Animal Health	Emergency Prevention System – Animal Health
EU	European Union
FAO	Food and Agriculture Organization of the United Nations
GF-TADs	FAO-OIE Global Framework for the Progressive Control of Transboundary Animal Diseases
GLEWS	Global Early Warning and Response System
HPAI	Highly pathogenic avian influenza
ILRI	International Livestock Research Institute
IFPRI	International Food Policy Research Institute
IDRC	International Development Research Centre
IFAD	International Fund for Agricultural Development
MoA	Ministry of Agriculture
NCP	National Contingency Plan
NGO	Non-governmental organization
OFFLU	Joint OIE/FAO worldwide scientific network for the control of avian influenza
OIE	World Organisation for Animal Health
PACE	Pan African Programme for the Control of Epizootics
RAHC	Regional Animal Health Centre
RAP	FAO Regional Office for Asia and the Pacific
SFERA	Special Fund For Emergency and Rehabilitation Activities
SNEA	FAO Subregional Office for North Africa
TAD	Transboundary animal disease
TCE	Emergency Operations and Rehabilitation Division
TCP	Technical Cooperation Programme
UNICEF	United Nations Children's Fund
UNSIC	United Nations System Influenza Coordinator
WB	World Bank
WFP	World Food Programme
WHO	World Health Organization

EXECUTIVE SUMMARY

This document is a revision and update of the Food and Agriculture Organization of the United Nations (FAO) *Global Programme for the Prevention and Control of H5N1 Highly Pathogenic Avian Influenza*, which was first formulated at the end of 2005[1]. It describes how FAO implements its responsibilities as presented in the joint *FAO/OIE Global Strategy for the Prevention and Control of H5N1 Highly Pathogenic Avian Influenza*[2]. Whereas the FAO/OIE Global Strategy sets a 10-year vision for immediate-, medium- and long-term responses to HPAI, the FAO Global Programme is time-bound for three years, 2006-2008, and addresses immediate response needs while maintaining a perspective on the longer-term strategy.

FAO's Global Programme is designed in line with this vision and the overall objective "*to safeguard animal health and livelihoods from the threat of HPAI and mitigate the risk of a human pandemic through prevention and control of H5N1 HPAI in the poultry sector at three inter-connected levels: global, regional and national".*

To achieve this objective, the Programme is designed to produce three major outcomes:

- A coordinated and efficient global response to highly pathogenic avian influenza (HPAI);
- Disease control strategies and options that are technically sound, economically sustainable, ecologically appropriate and socially acceptable, which are available and communicated to decision-makers; and
- Regional and national capacities and competencies developed for effective prevention and control of HPAI in the animal population.

Implementation of the Programme is multidisciplinary, integrating animal health, socioeconomics, farming systems, wildlife and communication expertise as essential components of a coordinated and integrated approach to tackling HPAI.

Programme implementation began in 2006 and will continue throughout 2008 to address short- and medium-term priorities within the context of the 10-year vision laid out in the Global Strategy. It is therefore envisaged that, towards the end of 2008, a revised and updated Programme will be prepared, in collaboration with donors and partners, to address the long-term goals of the Global Strategy beyond 2008.

Emergency actions to prevent introduction of HPAI, respond promptly to new incursions and initiate the fight against disease already present were the highest priorities of FAO's response prior to the formulation of the Programme (2004-2005) and during its initial phases. Now, even at the start of the third year of the three-year Global Programme, there is still a need for emergency responses to requests from countries that have been infected recently or re-infected. However, greater attention will increasingly be given to strategic and longer-term issues such as socioeconomic factors, impact of disease and control programmes on the food security of the most vulnerable, protection of biodiversity, and restructuring of poultry industries and farming systems. Together, these two dimensions, emergency response and longer-term actions, will ensure effective prevention and control of the disease in the animal population while protecting livelihoods

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1 See 'Avian Influenza Control and Eradication - FAO's Proposal for a Global Programme' under *Key Documents* at www.fao.org/.avianflu)

2 The March 2007 version of the strategy is available as 'The Global Strategy for Prevention and Control of H5N1 Highly Pathogenic Avian Influenza' under *Key Documents* at www.fao.org/.avianflu)

PROGRAMME STRUCTURE

Consistent with the Global Strategy, the Global Programme is structured to operate simultaneously in three interlinked domains: global, regional and national.

Coordination and support at global level is implemented through the Emergency Centre for Transboundary Animal Diseases (ECTAD) at headquarters. This global facility coordinates the international effort to enable countries to conform to internationally-agreed plans for controlling the spread of HPAI. It works in collaboration with the World Organisation for Animal Health (OIE) and the World Health Organization (WHO), while facilitating improved synergy at the regional level and accommodating specific needs at the national level. ECTAD ensures harmonization of regional approaches for early warning, efficient detection and early response to HPAI, and provides technical inputs through capacity building and technical support to countries.

Control strategies and options are developed and subjected to ongoing critical review in the light of emerging information about the disease and its epidemiology, research findings and feedback from the field. Development of the strategies draws on technical expertise from within FAO itself as well as through collaborations and partnerships, particularly when critical gaps in knowledge are identified and there is a need to conduct applied research to fill those gaps.

Coordination and support at regional level is essential for ensuring harmonization and consistency of approach, efficient use of resources, and sharing of information among countries of the same region, because HPAI knows no national borders. The pillar of this regional approach is the establishment of ECTAD units responsible for delivering the Global Programme within regions, increasing the efficiency of regional and national support, and ensuring that support matches local priorities and needs for disease preparedness, rapid response and continuous control. The Global Programme is supported by six regional sub-programmes: Asia and the Pacific (East and South Asia); Central Asia; Sub-Saharan Africa; Middle East and North Africa; Eastern Europe and Caucasus; and Latin America and the Caribbean.

Support at national level involves working in partnership with national institutions to develop and implement country-specific and sector-specific disease control plans and action protocols. Specific assistance is provided to contain and control HPAI outbreaks in affected countries and to reduce the risks of introduction and prevent resurgence of disease outbreaks in at-risk countries. A priority is to assist countries in developing their veterinary capacities and capabilities so that they are able to conduct effective surveillance, diagnose disease rapidly and respond effectively to disease incursions. Implementation of the policies and strategies at country level is regularly assessed to determine whether they are effective, economically sustainable and socially acceptable.

A large component of the Programme has also been committed to supporting analytical studies, such as throwing light on the role of wild birds in the spread of infection, conducting epidemiological and socioeconomic analyses and studies in order to illustrate disease drivers, define market chains and mitigate market shocks and the impact of the disease and its control on poor farming communities; and preparing strategic communication initiatives to increase participation at all levels in preparedness and response activities.

Reporting and evaluation

A comprehensive report on the activities and outcomes of the Global Programme up to mid-2007, *Report November 2007, Global Programme for the Prevention and Control of Highly Pathogenic Avian Influenza,* has been prepared and is available on the FAO avian influenza website http://www.fao.org/docs/eims/upload//236620/I0026E00.pdf

Late in 2006, a process of evaluation of FAO's response to HPAI was launched. Managed by FAO's Evaluation Service (PBEE), that process was expected to include a number of real-time evaluations (RTEs) and a final evaluation. The first RTE began in February 2007 and was

completed in May. After comments from a Peer Review Panel and a Consultative Group, the RTE report was submitted to FAO management, which has responded positively and already implemented many of the recommendations. A second RTE is planned for 2008.

Programme costs and funding

The funding requirements of FAO's Global Programme, as estimated in March 2006, were set at US$308.5 million over the three-year period: US$40 million for global coordination and support, and US$268.5 for support to regions and countries.

As of February 2008, total contributions to FAO's Global Programme amounted to US$188.5 million, of which FAO had contributed US$9.7 million through its own resources. Funding up to the end of 2008 is US$120 million short of the original estimate.

A significant portion of the Programme's funding has been channelled through the Special Fund for Emergency and Rehabilitation Activities (SFERA). The fund is a mechanism that pools donor resources which are not earmarked by country or type of intervention to enable a more flexible and rapid response to countries' needs. As of February 2008, ten donors had contributed US$40.1 million to SFERA for HPAI operations, representing almost 21 percent of FAO's total funding portfolio for HPAI activities.

The funding received in support of the Global Programme so far has been mobilized for a range of operational and technical activities, including veterinary infrastructure development, training and capacity building, provision of technical expertise and other activities enabling Member Nations to plan for early warning, efficient detection and timely response to avian influenza. Since the start of the Global Programme, more than 130 countries have benefited from assistance, either through specific interventions at national level or through regional support.

In summary, four years after the start of the HPAI panzootic, there are still significant gaps in knowledge of factors that are critical for the success of global HPAI control. Also, many of the countries that are either infected or at risk of infection have inadequate animal health systems, in particular ineffective veterinary services, and do not have the strong involvement of private producers and other stakeholders or resources that are needed to mount effective prevention and control programmes. This document outlines how FAO will continue its role in the international effort to prevent and control HPAI in the animal population with the ultimate goal of avoiding a human pandemic. It will be updated periodically in the light of changes in the global situation and as new knowledge emerges.

CHAPTER 1
CONTEXT AND UPDATE

1.1 EVOLUTION OF THE GLOBAL PROGRAMME

Following the outbreaks and spread of the disease in Southeast Asia in 2004, FAO and OIE jointly developed the *Global Strategy for the Progressive Control of H5N1 Highly Pathogenic Avian Influenza*. This strategy has been updated regularly since to reflect the evolving disease situation, with the latest revision in March 2007.

In order to meet its responsibilities within the Global Strategy, FAO developed a proposal for a *Global Programme for the Prevention and Control of Highly Pathogenic Avian Influenza*. Whereas the FAO/OIE Global Strategy sets a 10-year vision for immediate-, medium- and long-term responses to HPAI, the FAO's Global Programme is time-bound for three years, 2006-2008, and addresses immediate response needs while maintaining a perspective on the longer-term strategy.

The FAO's Global Programme was first presented to a stakeholders' conference in Geneva in November 2005, and then to an international donors' pledging conference in Beijing in January 2006. The Programme was updated in March 2006 and presented at a Senior Officers' Meeting in Vienna in July 2006, seeking donor support for US$308.5 million over a three-year period (2006-2008) to fulfil FAO's global and regional mandate as defined in the Global Strategy and to meet the expected growth in the number of Member Nations requesting assistance.

With the changing disease situation in the field, FAO's Global Programme has had to be modified and adapted with time, in different geographical areas and in line with revisions of the Global Strategy. Emergency actions to prevent introduction of HPAI, respond promptly to new incursions and initiate the fight against disease already present were the highest priorities of FAO's response in the beginning of the crisis (2004-2005) and, during the first two years, the current three-year Global Programme. Now, even at the start of the third year of the Programme, there is still a need for emergency responses to requests from countries that have been infected recently or re-infected. However, greater attention will increasingly be given to strategic and longer-term issues such as socioeconomic factors, impact of disease and control programmes on the food security of the most vulnerable, protection of biodiversity, and restructuring of poultry industries and farming systems. Together, these two dimensions, emergency response and longer-term actions, will ensure effective prevention and control of the disease in the animal population while protecting livelihoods

It is anticipated that, towards the end of 2008, a revised and updated Programme will be developed, in collaboration with donors and partners, to address the long-term goals of the Global Strategy beyond 2008.

1.2 ACHIEVEMENTS

Prior to the formulation of the Global Programme, during 2004 and 2005, and in response to the emergency situation in several infected countries in Southeast Asia and countries considered at risk in other areas of the world, FAO mobilized funds through Technical Cooperation Programmes (TCPs) to provide technical advice and to assist with the development of country preparedness plans and the creation of regional networks. Following adoption of the Global Programme in early 2006 and the securing of donor pledges, FAO was able provide further assistance to infected and at-risk countries and to initiate medium-term responses. These focused on assisting countries to develop preparedness plans, improve surveillance systems, acquire laboratory resources and competence to diagnose disease, and develop response capability. As a result 130 countries have benefited from emergency

assistance and procurement of basic diagnostic reagent kits, personal protective equipment and disinfectants. Many of these countries have now tested and integrated their preparedness plans which incorporate effective surveillance systems for early detection of HPAI outbreaks and rapid response capability. Resources have been provided to more than 26 countries using specific projects funded by donors for refurbishment or construction of diagnostic laboratories and establishment of national surveillance systems and epidemiological teams. Regional training has been provided in many aspects of disease control, including laboratory diagnostics, epidemiology, disease surveillance (poultry and wildlife), emergency preparedness, disease control management and biosecurity. More than 1,600 trainees from many countries in Africa, Asia, Eastern Europe and the Middle East, as well as Latin America and the Caribbean, have benefited from these training activities, which have been continuously replicated at national and local levels. The Crisis Management Centre-Animal Health was established in 2006 and it has deployed rapid response missions to 17 countries in Africa and Asia in response to new outbreaks or significant epidemiological changes in the disease.

In parallel to direct assistance to member countries, FAO has further strengthened the structure of ECTAD and its decentralized units in target regions in an effort to be more responsive to the changing global disease situation and to be able to deliver relevant and timely technical and operational inputs in support of member states. In this context, FAO (in collaboration with OIE and technical regional organizations) has expanded and strengthened regional epidemiology and laboratory networks dedicated to coordinating HPAI disease surveillance and diagnostic capacity of member countries. These networks support coordination and harmonization of regional approaches for early warning, efficient detection and early response to HPAI.

FAO's Global Programme is also committed to increasing understanding of the epidemiology of the disease and its control by promoting and supporting applied research on global questions and issues to improve the quality of technical tools, methods and strategies available to decision-makers for combating HPAI and rehabilitating poultry industries. Initial studies have been conducted in association with institutional partners to conduct surveillance in 14 countries in Africa, Asia and Europe to clarify the potential role of wild birds in long distance spread of virus and its introduction into domestic poultry. Studies carried out with institutional partners also identified the significant role that domestic ducks play in many countries, both in the maintenance of infection in mixed farming systems and in the spread of infection when flocks of ducks are moved over considerable distances while grazing on rice stubble. Applied research studies were started with partner organizations to evaluate use of vaccination as one component of disease control programmes, including monitoring the circulating strains of virus and their antigenic match with different vaccines.

Socio-economic analysis studies have been conducted in several pilot countries to delineate market chains, and mitigate market shocks and the impact of the disease on poor farming communities. National preparedness plans have also been studied in select countries to ensure that their disease responses protect the livelihoods and development prospects of the vulnerable and protect biodiversity, particularly indigenous breeds of poultry.

1.3 LESSONS LEARNED AND IMPLICATIONS

Since the first outbreaks of H5N1 HPAI in Viet Nam in late 2003, the infection has been detected in a wide range of poultry production systems, in different geographic and climatic zones, in countries with varying levels of veterinary infrastructure and ability to detect and deal with incursions, and in wild migrating birds that have died. National animal health surveillance systems have been inadequate in some countries, leading to the diagnosis of fatal human cases of H5N1 before detection of the infection in domestic poultry or wild birds. This has meant that strategies and implementation measures have had to be constantly evaluated for their applicability in different situations and as more information has been obtained on the biological properties of the virus and the epidemiology of the disease.

National veterinary infrastructure and capability are essential

As attempts have been made to address the HPAI epizootic, it has become clear that countries with weak veterinary infrastructure and capability are particularly vulnerable because there are delays in detecting disease and a lack of response capacity. The extent of infection in a country and its distribution is often poorly known. This is a problem not only for dealing with HPAI but for control of all transboundary animal diseases (TADs). A focus on restructuring veterinary services and rebuilding infrastructure is essential in many countries, particularly in Africa, and responding to the HPAI epizootic also calls for strengthening the entire veterinary services. Strong veterinary services, and well organized and regulated poultry sectors with a high level of biosecurity, generally exist in countries with strong national economies, but countries with weaker national economies will need particular international assistance and will require this for well into the foreseeable future.

Adequate surveillance systems are essential

The ability of a country to rapidly detect and respond to an incursion of HPAI depends on the presence of surveillance systems that ensure reporting of suspicions of disease, and collection and processing of suitable samples in competent laboratories to produce a reliable diagnosis. Achieving such a surveillance system requires an alert and engaged community at all levels, trained and equipped staff to investigate reports and collect samples, and a well-equipped laboratory with trained staff to conduct reliable testing. Several components are necessary for establishing an effective surveillance system, including good communication strategies and programmes to achieve community awareness and engagement, trained field investigators and epidemiologists, and trained laboratory staff in well-equipped laboratories. Effective surveillance systems often include a risk assessment component to identify particular areas that deserve close monitoring, such as markets or poultry near wetlands. Participatory disease surveillance has been used effectively in some countries.

Preparedness planning pays off

From the outset, the Global Programme has emphasized that countries potentially at risk of infection need to develop integrated national preparedness plans, conduct community awareness campaigns, strengthen risk-based surveillance, and assemble resources to enable a rapid response to any incursion, including culling of infected and contact birds. Countries that have been able to implement this strategy when incursions in wildlife or domestic poultry have occurred have been able to eliminate infection rapidly, protect human health and return to a country-free status.

Vaccination can be a valuable component of control programmes

It has become clear that use of properly formulated vaccines can play a valuable role in HPAI control, particularly if infection has become widespread in a country. For example, the number of outbreaks in domestic poultry and human illness and death decreased substantially in Viet Nam following the use of vaccination in association with culling of infected and in-contact birds, controlling duck farming, controlling markets and the implementation of on-farm biosecurity measures. However, extensive resources are needed to mount vaccination programmes effectively, including surveillance and development of an exit strategy.

Prompt diagnosis and linkage to reference laboratories are essential

An effective mechanism for promptly shipping samples to international reference laboratories is essential for rapid diagnosis and continuous surveillance of circulating virus strains. Strengthening of laboratory diagnostic capacity within countries is not sufficient without an effective mechanism for international sample shipment and for exchange of virus isolates, reagents and reference materials.

Ongoing epidemiological studies are required

HPAI appears to behave differently in different geographical areas, in different climatic zones and in different production systems. There is some indication that it is theoretically possible

that infection may even die out under some circumstances without intervention. Comprehensive and continuing epidemiological studies are required in each infected country to ensure that the best local information is available so that a mix of control strategies can be used that is appropriate to local conditions. Epidemiological studies in individual countries and regions also contribute to overall disease intelligence that can heighten awareness in bordering countries and inform the global community about trends in movement of the disease.

Socioeconomic approaches are needed

Understanding market chains within and between countries is critical for designing and implementing management of movement and of markets. To assist with this, a knowledge network linking UN agencies working on social, economic and policy analysis of avian influenza with government agencies and research centres in infected and at-risk countries, international research groups and NGOs, has been established by FAO on behalf of the UN family. This network will promote the assessment of the impact of HPAI outbreaks and control processes on social, economic and production sectors. It will also assist network members to draw up recommendations on policy issues affecting successful control of HPAI at the national and regional level and communicate findings effectively to regional and national policy-makers.

The role of migrating wild birds must be clarified

Migrating wild birds are capable of flying long distances after exposure to HPAI and are likely to carry the virus over large distances. Which species may be involved is currently unknown. However the role of migrating birds in starting infection in domestic poultry remains unclear and is certainly less of a factor in the international spread of infection to poultry than the legal and, particularly, the informal trade in poultry and poultry products.

Effective communication strategies are essential

Communication of accurate information to all sectors of the population, both producers and consumers of poultry, is essential to raise awareness, promote early reporting and diagnosis, protect human health and provide an informed basis for mitigating market shocks when incursions, real or suspected, occur.

The level of public awareness and understanding of HPAI transmission modes, prevention and control measures, and sociocultural/socioeconomic factors, together contribute to the perception of risk among communities, and influence their behavioural intent. Poor communication, including that which is not timely, reduces public trust in national authorities, leading to risky behaviour and practices by poultry-keepers, traders, transporters and consumers. It also leads to a lack of public participation and engagement in prevention and control measures.

Currently, there is urgent need for the systematic sharing and management of knowledge and information on HPAI communication interventions in regions and countries. A comprehensive and multidisciplinary meta-analysis of HPAI communication interventions to date, and their effectiveness, needs to be conducted on a priority basis. Findings from this meta-analysis should form an authoritative basis for the design of regional and national communication strategies and interventions.

Additionally, a unified regional approach to rapidly building and strengthening national communication capacities, backed up by the establishment of decentralized resource centres, needs to be developed to provide continuing hands-on technical assistance in HPAI communication.

Development goals need support and food security for the most vulnerable must be protected

It is essential that national preparedness and response plans for incursions of HPAI are sensitive to and take account of those sectors of the population that are most vulnerable to incursions of disease in their livestock and to the impact of control measures, particularly

extensive culling of infected and in-contact animals. Frequently these are women and children involved with small flocks of scavenging chickens that are critical to family food security and cash income. Effective control programmes, particularly in countries where infection with HPAI has become endemic, must rely on informed cooperation of this sector while protecting their livelihoods and prospects for development.

1.4 CURRENT DISEASE SITUATION

With FAO's assistance, more than 130 countries have been able to increase awareness and adopt appropriate measures to prevent, control and eliminate HPAI. However, 61 countries in Asia, Europe and Africa have been affected by H5N1 HPAI since the beginning of the epizootic in animals. Of these, 30 experienced outbreaks during 2007, five of which reported outbreaks for the first time: Bangladesh, Benin, Ghana, Saudi Arabia and Togo. Except for a few outbreaks in wild birds (mainly in Hong Kong SAR and Europe), most of the confirmed outbreaks have been in domestic poultry, including diverse species such as chickens, turkeys, geese, ducks and quail. WHO reported 74 human cases (49 fatal) in seven countries in 2007 (Cambodia, China, Egypt, Indonesia, Lao People's Democratic Republic, Nigeria and Viet Nam).

A preliminary global analysis of the situation between January and December 2007 indicates fewer outbreaks and fewer infected countries compared with the same period in 2006. Increased awareness and improvement of disease surveillance have permitted countries such as India, Romania, Malaysia and Turkey to successfully detect and control the disease. Nevertheless, infection persists in three continents (Asia, Africa and Europe), as does the risk for those countries that either successfully controlled outbreaks in the past or have never been affected.

Early in 2008, India experienced further outbreaks of HPAI, which has spread through several districts in spite of culling infected and in-contact birds

The large number of reported cases in poultry in Indonesia in 2007 is largely due to the roll-out of a 'participatory disease search' (PDS) programme, which actively looks for the infection in backyard village-type poultry production environments. In addition to poultry cases, Indonesia reported 38 human cases in 2007, 33 of them fatal. In Asia, the virus is actively circulating in some hotspots. Outbreaks in poultry have been reported repeatedly by Viet Nam, mainly in duck production systems, A fifth epizootic wave of H5N1 HPAI was reported in early May 2007 in poultry in 22 Vietnamese provinces. The disease appears enzootic in Bangladesh. Infections continued also in Pakistan, China and Afghanistan. In China, HPAI outbreaks were reported in Tibet (March), and the provinces of Hunan (May) and Guangdong (September), while the virus was isolated from different locations in southern China (Fujian, Guangdong, Hunan, Hubei, Sichuan and Chongqing) in March and April through routine surveillance activities. Wild bird deaths were reported in Hong Kong SAR but not on mainland China.

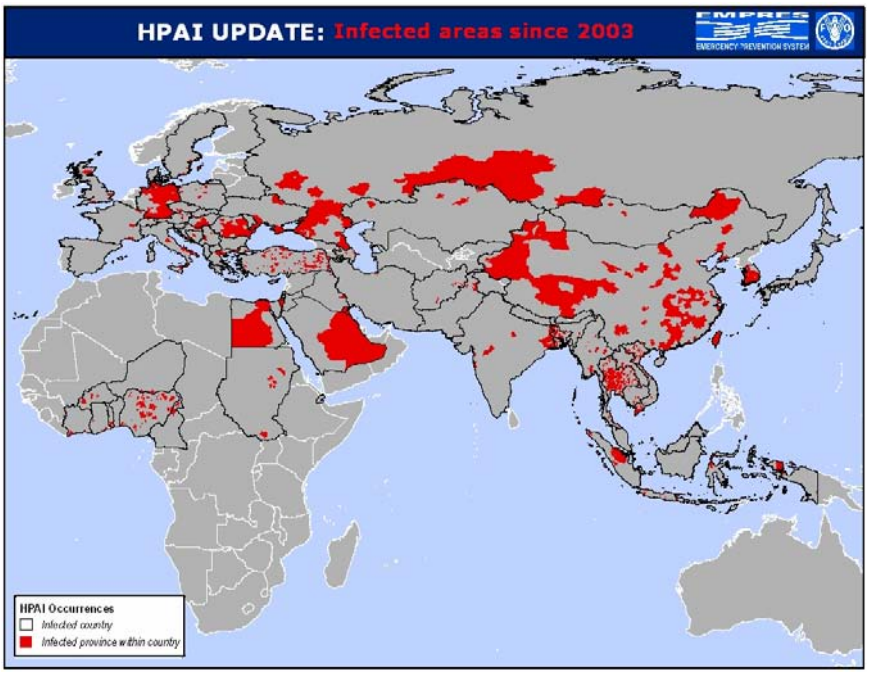
In the Middle East, Saudi Arabia reported a first outbreak in March 2007 and several outbreaks in November 2007 in commercial poultry farms in Riyadh.

In Africa, HPAI is now considered endemic in Egypt and possibly in Nigeria. Several countries in West, Central, South and North Africa are at risk of becoming infected, and early warning, surveillance and preventive measures should be taken urgently. In Nigeria, 36 states and the Federal Capital Territory have been affected since February 2006; nevertheless, only seven states reportedly had active disease in October 2007. Between March and September 2007, Egypt reported outbreaks, mainly in backyard units. Benin, Ghana and Togo reported outbreaks for the first time during 2007.

In Europe, Russia experienced outbreaks in poultry during 2007. Germany reported outbreaks in poultry (ducks and geese) and several cases in wild birds. Other countries in Europe that reported outbreaks in 2007 were: Czech Republic (poultry and wild birds), France (wild birds), Hungary (geese), Poland (poultry), Romania (poultry) and United Kingdom (poultry).

Overall, in 2007 there has been an improvement in the general H5N1 HPAI situation worldwide, but there is still a risk of recurrence and spread of the infection. Also, the disease is becoming enzootic in some regions.

Figure 1 Countries reporting H5N1 HPAI in domestic poultry or wild birds



Updated maps showing the current situation can be found at the following web site: http://www.fao.org/ag/againfo/programmes/en/empres/maps.html

CHAPTER 2
PROGRAMME OBJECTIVES AND STRATEGY

2.1 PROGRAMME OBJECTIVES

FAO's Global Programme is the implementing document of the Organization's responsibilities within the framework of the FAO/OIE Global Strategy. It describes how FAO will address its areas of responsibility consistent with the vision and the strategic objectives stated in the Global Strategy.

The vision of the FAO/OIE Global Strategy is of *"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"*

In line with this vision, the overall objective of FAO's Global Programme is "*to safeguard animal health and livelihoods from the threat of HPAI and mitigate the risk of a human pandemic through prevention and control of H5N1 HPAI in the poultry sector at three inter-connected levels: global, regional and national".*

The basic premise is that infection must be controlled at its source in birds to protect human as well as animal health.

To achieve this objective, the Programme aims to produce the following outcomes:

- A coordinated and efficient global response to HPAI;
- Disease control strategies and options that are technically sound, economically sustainable, ecologically appropriate and socially acceptable, which are available and communicated to decision-makers; and
- Regional and national capacities and competencies developed for effective prevention and control of HPAI in the animal population.

The outcomes, outputs and indicators of achievement of the Programme are contained in the Logical Framework (Annex 1).

2.2 PROGRAMME STRATEGY

In order to achieve the proposed objectives, the Programme strategy is governed by the following features**:**

Multidisciplinary and integrated approach

The complexity of HPAI ecology and epidemiology, its socioeconomic impact and the potential risk of pandemic influenza require a multidisciplinary and multisectoral approach to address technical, policy, institutional and socioeconomic issues. This integrated approach is well reflected in the design of the Global Programme and its implementation in the field to ensure that appropriate information on the disease and its progression is collected and properly analysed in order to propose disease prevention and control measures in the short, medium and long term.

Dynamic process

It is intended that the Programme be implemented as a dynamic process with the necessary flexibility to address the extreme unpredictability of avian influenza outbreaks and the particular needs and priorities of given areas and countries.

The Programme management is able to modify priorities and work plans in response to new circumstances, opportunities and challenges facing particular regions and countries in the light of information from the field on progression of the disease and regional and national needs. This ensures that the most appropriate actions are taken in a timely manner.

From emergency response to long-term action

Implementation of the Programme began in 2006 and will continue through 2008 in an initial phase to address short- and medium-term priorities of the Global Strategy. Emergency actions to prevent introduction of HPAI, to respond promptly to new incursions and to initiate the fight against disease already present are of highest priority for implementation. However, long-term regional and national actions involving progressive capacity development are an important component of the Programme and are being addressed simultaneously. As it moves beyond this initial three-year phase, it is envisaged that the next phase of the Programme will focus more of its activities and resources on long-term development goals aimed at supporting countries to alleviate poverty and secure food security, while still addressing emergency response. The Programme is characterized by an appropriate balance between these two dimensions to ensure effective prevention and control of the disease in the animal population while protecting livelihoods and developing animal health capacity that is sustainable and socially acceptable.

Priority action programme

Prioritization of countries and regions for assistance is critical to implementation of the Global Programme in order to rationalize mobilization of resources and ensure the most effective contribution to HPAI control efforts. The Global Programme focuses assistance on affected countries where the disease is endemic and those countries considered at risk. All countries free of the disease can be considered at risk, but those with inadequate veterinary and laboratory services and weak disease control and prevention capacity are at higher risk than those with stronger capacity. Many of the countries considered at risk have disrupted social and civil structures where it is easy for the presence of HPAI to go undetected and unreported. In some cases, the observation of human deaths from H5N1 avian influenza has been the first indication that infection is present in birds. In order for these countries to prevent incursion and ensure that the disease does not become established, enhanced veterinary capacity, vigilant surveillance programmes, well-developed emergency preparedness plans, sufficient resources and expertise, and close partnerships with private and public sector organizations are needed to detect and stamp out infection should it occur.

Although it is possible to set priorities, one of the great challenges facing the global response to HPAI is the inability to predict exactly where it will occur next and under what circumstances. Therefore the Global Programme foresees the need for contingency funds to ensure that resources are available for immediate provision of emergency assistance to newly-infected countries to mobilize technical and operational support in the event of outbreaks.

Cooperation and partnership

OIE and UN agencies

The Programme provides a framework which incorporates cooperation with OIE and other UN agencies, as well as with external partners. The Programme's implementation strategy involves a strong partnership with OIE on all aspects of animal health and veterinary services. FAO also works closely with WHO because of human health concerns and with the United Nations Children's Fund (UNICEF), which plays an important role in avian influenza communication. FAO and other UN agencies work under the overall coordination of the office of the United Nations System Influenza Coordinator (UNSIC) in New York.

Regional organizations

Close cooperation on Programme implementation has also been formed with regional organizations such as the Association of Southeast Asian Nations (ASEAN) and the African Union's Interafrican Bureau of Animal Resources (AU-IBAR).

Bilateral agencies

The Programme provides points of entry for cooperation and joint activities with multilateral financial institutions and bilateral agencies such as the World Bank, the Asian Development Bank and the European Commission, according to their own areas of activity. In addition, a number of strategic donors are providing co- and parallel financing for the application and testing of conceptual work and capacity building activities at country level.

Expert centres and research organizations

To address the gaps in knowledge and advance the development of technical tools and options for disease surveillance and control, FAO has established cooperative arrangements with centres and institutions that have internationally recognized expertise to conduct the necessary applied research.

Public-private sectors

Where possible, particularly at the national level, the Programme offers opportunities to facilitate productive partnerships between the public sector and private organizations which have particular skills, knowledge and resources.

CHAPTER 3
PROGRAMME STRUCTURE

Within the framework of the FAO/OIE Global Strategy, FAO and OIE have responsibilities at the global, regional and national levels to respond to the HPAI epidemic with effective cooperation, coordination, communication, provision of technical advice, and assistance with identifying and mobilizing resources to combat the disease. As a result, the Global Programme is structured to operate simultaneously at three interlinked levels: global, regional and national.

3.1 COORDINATION AND SUPPORT AT GLOBAL LEVEL

A number of specific mechanisms and initiatives have been put in place in order to ensure a coordinated and efficient global response to HPAI.

Emergency Centre for Transboundary Animal Diseases (ECTAD)

The Emergency Centre for Transboundary Animal Diseases (ECTAD), established by decision of the Director-General of FAO in November 2004, is the umbrella body and coordinating mechanism for implementation of the Global Programme. This horizontal operational platform brings together the technical skills of animal health experts in the Animal Production and Health Division (AGA) and operational expertise from the Emergency Operations and Rehabilitation Division (TCE). The head of ECTAD is the FAO Chief Veterinary Officer and Chief of the Animal Health Service, who chairs the team of senior managers responsible for the day-to-day running of ECTAD. This unified operational and technical command is essential to the successful coordination of FAO's work and the Organization's cooperation with partners.

The organigram of ECTAD is shown in Annex 2. The work of ECTAD is guided by a management committee, which meets twice a week and comprises the heads of the various sub-units. In addition, an ECTAD oversight committee of senior FAO managers informs and guides ECTAD's development.

ECTAD coordinates the international effort to help countries conform to internationally-agreed plans for controlling the spread of HPAI. This global coordination is managed in collaboration with OIE and WHO, while facilitating improved synergy at the regional level and accommodating specific needs at the national level. ECTAD ensures harmonization of regional approaches for early warning, efficient detection and timely response to HPAI, as well as providing technical inputs through capacity building and technical support to countries.

Crisis Management Centre – Animal Health

The Crisis Management Centre-Animal Health (CMC-AH) was launched in cooperation with OIE on 12 October 2006 at FAO headquarters in Rome. It marks a major step forward in enhancing the Organization's capacity to respond to the challenges of the evolving global disease situation. The CMC-AH operates within the framework of ECTAD and provides a rapid response or 'fire-fighting' service to newly contaminated countries, countries at high risk and countries in which a new epidemiological situation occurs by rapidly deploying teams of experts to assist with the immediate response to HPAI incursions (or threat of incursion). The teams have back-up from staff based at headquarters, who coordinate the work of the CMC-AH to maximize its efficiency and effectiveness. The Centre is fully equipped with an information and communication technology infrastructure to facilitate the despatch and coordination of rapid deployment teams, and to liaise with partner organizations such as OIE and WHO.

The CMC-AH is now a part of the FAO's Crisis Management Centre – a functional framework that integrates the organization's information, communication, intelligence, risk analysis, early warning and alert functions with a rapid response capacity to assist countries in facing immediate and emerging threats to the food chain.

Global Early Warning and Response System (GLEWS)

The Global Early Warning and Response System (GLEWS), which was originally the disease intelligence warning arm of EMPRES-Animal Health, became a joint FAO/OIE/WHO platform in July 2006. It meets the critical need to rapidly identify new outbreaks of HPAI (and other major animal diseases) and assist national authorities to effectively respond to them.

GLEWS integrates data with OIE and WHO, and from other sources (media reports, consultant mission reports, rumour tracking results, etc.) and conducts disease intelligence and epidemiological analysis. This information is shared with all stakeholders, including participating countries, using different methods of communication (mailing lists, websites, etc.). GLEWS helps to provide warning messages based on the most up-to-date scientific information available, and therefore provides a basis for more accurate risk assessments to be conducted by the international scientific community, with the ultimate goal of contributing to the prediction of HPAI disease patterns.

OIE/FAO Network of Expertise on Avian Influenza (OFFLU)

The OIE/FAO Network (OFFLU) is an international network of laboratory expertise on avian influenza established in April 2005 by OIE and FAO. OFFLU promotes research, offers expertise and assistance in the control of HPAI, and cooperates with WHO on issues related to the human/animal interface. The network includes OIE/FAO reference laboratories, epidemiology centres and expert groups in avian influenza throughout the world in the exchange of strains of H5N1 HPAI and information between the human and veterinary laboratories. Within the Global Programme this network of expertise provides to countries diagnostic support, training and technical advice.

3.2 COORDINATION AND SUPPORT AT REGIONAL LEVEL

Control of HPAI at the national level is implemented within regionally coordinated initiatives to control the disease. National programmes and activities require the constant provision of technical guidance and are most efficiently organized on a regional and sub-regional basis to coordinate and build capacity for prevention, emergency preparedness planning and control of HPAI.

Regional coordination and networking are important components of the FAO/OIE Global Strategy for control and eradication of HPAI and of the overall coordinating mechanism being established to support its effective implementation. This approach harmonizes national priorities in disease prevention and control efforts and builds synergy and efficiency in terms of laboratory and epidemiological expertise, and consequently global efficiency of the overall disease prevention and control. Support at the regional and national level ensures that individual countries have the ability to adapt information and resources to deal with local environments and contexts while still adhering to the overall Global Programme.

ECTAD regional units

The Global Programme mandates the establishment of ECTAD regional units to coordinate the Programme at the regional and national levels. Some of these units are located within the Regional Animal Health Centres (RAHCs) jointly established with OIE to coordinate animal health programmes in target regions (Annex 3).

The ECTAD regional units facilitate coordination of regional programmes and ensure that disease control plans are implemented in a systematic, coordinated and phased manner. They reduce the necessity for regional and sub-regional offices to refer directly to ECTAD at FAO headquarters for administrative and basic operational matters, and allow them to direct HPAI operations as appropriate, based on overall management and policy guidelines. This regional structure enables ECTAD to be even more responsive to the changing global disease situation by working closely with regional and national structures to deliver timely and relevant technical and operational inputs in support of the overall objective of the Global Programme.

Regional laboratory and epidemiology networks

Central to FAO's Global Programme is the development and promotion of networking initiatives at regional level, enabling local national institutions to share ideas and information, and build capacity and trust for enhanced transparency and mutual confidence in disease information exchange, and as a result global efficiency of the overall disease control.

FAO, in close liaison with other technical and regional organizations, has promoted the establishment around the world of sub-regional networks of national diagnostic laboratories and epidemio-surveillance teams dedicated to coordinating HPAI disease surveillance and diagnostic capacity of their member countries. These networks improve the quality of disease surveillance and disease diagnosis by putting in place harmonized epidemio-surveillance and diagnostic tools and methods, and by providing training and technical support to national staff engaged in this work in each country. They support coordination and harmonization of regional approaches for early warning, efficient detection and timely response to HPAI.

Regional networks are also being established to promote cooperation and harmonization of approaches among institutions and teams addressing issues related to socioeconomic analysis and farming systems. The objective is to establish a capacity for undertaking social, economic and policy assessment at national and regional levels and to assess the social, economic and policy issues affecting successful control of HPAI.

Regional sub-programmes

Regional sub-programmes have been developed and implemented in the following regions:

- Asia and the Pacific (East and South Asia)
- Central Asia
- Sub-Saharan Africa
- Middle East and North Africa
- Eastern Europe and Caucasus
- Latin America and the Caribbean

The aim is to harmonize approaches within the different regions to early warning, efficient detection and timely response to HPAI, as well as provide technical inputs through capacity building and technical support to countries. Regional programme implementation is underpinned by a wide range of activities including harmonization of disease control strategies, exchange of information, capacity building, networking and strategic studies taking into account the priorities and needs of the region. Wherever possible, implementation is carried out in partnership with existing regional animal health organizations and institutions in order to benefit from and build on local advantages and expertise.

3.3. SUPPORT AT COUNTRY LEVEL

National prioritization

Programme implementation at the country-level is based on a participatory and open consultation process to determine national priorities, and complement and link existing or planned activities which are being supported through other means. The approach is dependent on the specific conditions, needs and context of the partner country. The relative

priorities placed on the different activities in individual countries will vary depending on the epidemiological scenarios for each country, the amount of progress already made with national strategies and control options, the capacity to implement the different technical options and approaches for HPAI prevention and control, and what other support is available.

Once national programme priorities have been agreed, country-specific and sector-specific disease control plans and action protocols are developed and implemented with backstopping and technical guidance from ECTAD, in both the region and at headquarters. The primary aim is to build the capacity of national actors and institutions leading the activities, with ECTAD playing a supporting and facilitating role.

ECTAD country teams

In some countries where the disease has become endemic, it is also necessary to establish ECTAD country teams or smaller teams of experts to provide continuous and continuing assistance to governments and to ensure FAO's ability, as a U.N. organization, to reach the highest levels of national government in order to obtain the necessary institutional support. ECTAD country teams are currently operating in Egypt, Indonesia, Nigeria and Viet Nam. Small, country HPAI teams with a Chief Technical Adviser have also been established in Bangladesh, Cambodia, China and Lao People's Democratic Republic.

Assistance to infected and at-risk countries

Specific assistance at country level aims to provide support to countries that are infected with H5N1 in their efforts to develop and implement strategies to control and eradicate, or manage, the disease, and to provide specific support to countries that are at risk of becoming infected with H5N1 in their efforts to prepare for an eventual incursion of the disease.

Countries with weak veterinary capacity, inadequate laboratory diagnostic support or scarce resources to conduct surveillance and epidemiological investigations cannot prepare effectively for HPAI incursions or respond to them. As a result, the Programme's assistance is directed towards helping them develop national preparedness plans, assess their effectiveness through simulation exercises and evaluate the adequacy of veterinary infrastructure and resources. Through country programmes, ECTAD provides advice, training and resources to strengthen the capacity of national animal health systems, including veterinary services and laboratories, to conduct surveillance and proper laboratory diagnosis, and to improve response capacity

For those countries where infection has become endemic, assistance is provided to develop and implement long-term strategies to bring about control and eventual eradication. This implies long-term assistance, including technical advice and support, in designing and conducting specific studies to determine drivers of infection, communication strategies, and the potential for restructuring the various sectors of the poultry industry (including marketing) to enhance biosecurity.

Assistance and advice is provided to national governments to ensure that response and management plans, and their implementation, protect the needs of the most vulnerable people in the community and promote their development and food security.

CHAPTER 4
THEMATIC COMPONENTS OF THE PROGRAMME

The technical scope of the Global Programme is primarily to ensure the linkage and appropriate balance of all facets of HPAI control, such as the capacity of animal health systems including veterinary services, the socioeconomic implications of the disease and its control, ecological soundness, and the sustainability of response programmes within the wider context of rural development and poverty alleviation, where FAO has a clear international mandate. The tools used for this work include coordination and planning, veterinary infrastructure development, capacity building, provision of technical advice, information sharing and networking, and applied research. The substantive thematic components of the Programme include the following.

4.1 EMPRES – ANIMAL HEALTH

FAO's Emergency Prevention System-Animal Health (EMPRES-Animal Health) (http://www.fao.org/ag/againfo/programmes/en/empres/home.asp) works to progressively eliminate transboundary animal diseases through early warning, early reaction, enabling research and coordination. Building on this well-established base, a number of specific mechanisms and initiatives have been put in place to ensure a coordinated and efficient global response to HPAI.

Strategies, technical options and tools for disease control

It is essential that strategies, options and tools promoted for the control of HPAI are based on the best current evidence available, and that they are subject to ongoing critical evaluation and updated as necessary. This applies to knowledge about the virus and the epidemiology of the disease under different geographical and management systems, as well as to the effectiveness and efficiency of various disease control options and their impact on different sectors of the poultry industry, on local communities and on long-term development goals. FAO draws on its partnerships with public and private organizations, networks of expertise and country reports of progress in disease control to evaluate, formulate, update and put forward recommendations. Where gaps in knowledge are identified, applied research is undertaken with appropriate public and private partners in laboratory networks and in the field to address the needs. New knowledge is then incorporated into updated recommendations.

While the design and formulation of strategies occurs centrally, FAO technical advisors provide support at the regional and national level to ensure that the strategies and tools are adapted to local conditions and priorities, are applied in the most efficient manner and are consistent with supporting national development goals and protecting food security for the most vulnerable sectors of the population.

Disease intelligence and global early warning capabilities

The objective of this component is to ensure that accurate, timely information is collected, analysed and disseminated to enable countries to be prepared for possible incursions of disease and to respond promptly to new incursions. FAO uses the GLEWS system, in cooperation with OIE and WHO and other partners, to collect and assess information from official and unofficial sources (including country reports, official OIE notifications, news reports and web sites) and use it to provide the most current global and local intelligence on disease presence and movement. Provision of this information assists countries in their

planning and responses and also facilitates priority planning within FAO for allocation of resources and assistance.

Veterinary laboratory and epidemiology capacity

Rapid detection of HPAI relies on comprehensive epidemiological surveillance systems and laboratory capacity to detect infection early and to establish a specific diagnosis. Each country also needs to conduct ongoing epidemiological studies to identify and understand local features that will have an impact on the risk of disease emergence and subsequent spread. FAO assists in training and support for country epidemiological teams and laboratory diagnosticians, and facilitates their regional and international linkages to provide harmonization and ongoing professional support.

Through OFFLU, the Programme also facilitates linkages between national and regional laboratories, and with international reference laboratories, and the exchange of reagents and shipment of diagnostic samples.

Wildlife surveillance programme

The objective is to facilitate and support activities aimed at improving our understanding of the role that wild birds may be playing in maintenance and spread of HPAI. Work is coordinated by a headquarters-based team of international experts and is implemented through many partnerships at global, regional and national level. The programme facilitates partnerships, enhances training opportunities and supports scientific endeavour that lead to greater understanding about aspects of H5N1 HPAI viral ecology. The programme supports epidemiological studies that evaluate linkages between agriculture and wildlife as possible modes of disease transmission and spread; studies to identify wild bird H5N1 HPAI virus carriers, shedders and transporters; and wildlife ecology studies that look at key wildlife species, their migratory patterns, habitat use, and the timing of migration as it relates to H5N1 HPAI outbreaks in poultry and wildlife.

4.2 SOCIOECONOMIC ANALYSIS, PRODUCTION SYSTEMS AND BIODIVERSITY

Estimates of global economic losses from outbreaks of HPAI since 2003 run into billions of dollars. Therefore, when planning and executing a comprehensive HPAI control programme in a country or region, the social and economic dimensions of disease need to be taken into account. Decisions made at each stage of an HPAI programme, from prevention of the disease through to the control and eradication response, have the potential to affect livelihoods significantly and to have a negative impact on the long-term sustainability of the poultry sector. These socioeconomic issues fall into four broad categories: social and economic impacts of HPAI outbreaks and control measures at all levels; strategies, costs and financing of HPAI control; trade impacts and market shocks; and strategies and technical guidelines for safe poultry production. With the extensive use of culling as a control tool in outbreaks of HPAI, and the effect of the disease on several avian species and breeds, there is a need to consider the potential impact of HPAI and its control on biodiversity and the possible loss of indigenous breeds that are valuable for production in particular geographic areas. It is therefore necessary to address the mid- to long-term vision of the Global Strategy by securing national, regional and global markets and trade in poultry and poultry products, and protecting an important element in the livelihoods of poor farming communities.

4.3 COMMUNICATION AND PUBLIC AWARENESS

Rapid reporting of infection, prompt and adequate response, and community support for disease control activities require a high level of public awareness and knowledge about HPAI and the various issues involved and a commitment to comply with control policies and actions. The purpose of the communication component is to create an enabling policy and social environment that facilitates the acceptance, implementation and participation of all relevant stakeholders in the prevention and control measures related to HPAI. Creation of high public awareness about the disease can influence behaviour to reduce the risk of spread of HPAI among animals and from animals to humans. It aims to achieve this through strategic communication campaigns using an evidence-based mix of mass media and targeted interpersonal communications. Development of strategic communication campaigns requires multidisciplinary global and regional technical advisory groups to provide guidance and oversight for the development, planning, management and evaluation of HPAI communication campaigns. At the regional and national levels, partnerships will be established with appropriate government bodies (including ministries of agriculture), the media, NGOs and the private sector to roll out communication campaigns adapted to local conditions and priorities.

CHAPTER 5
PROGRAMME OUTPUTS AND ACTIVITIES

In the final analysis, the success of the Global Programme depends on the extent to which it achieves its envisaged outcomes. This section describes the outputs for each Programme outcome and the activities that will be carried out to produce these outputs.

5.1 COORDINATED AND EFFICIENT GLOBAL RESPONSE TO HPAI

OUTPUT 5.1.1
Global framework for sustainable management of HPAI and the risk of a human pandemic

Activities

- Utilize ECTAD at FAO headquarters to provide global technical and operational management and coordination for the Programme
- Develop and update annually the FAO/OIE Global Strategy and the FAO Global Programme to accommodate the changing situation in the field
- Enhance cooperation among major implementing partners (including FAO, OIE, WHO, UNDP and UNICEF) and clearly define the roles of UN agencies to ensure better coordination and communication
- Produce technical/policy papers with lead agencies and partners
- Contribute to the development and six-monthly update of the UN Consolidated Action Plan for Avian and Human Influenza
- Secure donor support and manage donor funding

OUTPUT 5.1.2
Timely disease information exchange resulting in improved early warning and response

Activities

- Generate and disseminate to the international community current disease information and maps utilizing the intelligence resources of GLEWS
- Assemble and publish scientific and technical information on the virus, viral ecology and disease epidemiology (including risk maps and predictive models) and make these available to the international community

OUTPUT 5.1.3
Capability to respond rapidly and effectively to suspected and confirmed outbreaks of HPAI worldwide

Activities

- Ensure that the CMC-AH has the resources to respond within seven days to countries seeking assistance with response to suspected or confirmed outbreaks of HPAI
- Develop and update standard operating procedures for emergency response
- Recruit and train a cadre of international experts to be on stand-by for immediate deployment when required
- Stockpile and regularly update at headquarters key emergency equipment and supplies for HPAI surveillance and control
- Establish flexible funding mechanisms for rapid mobilization of contingency funds

OUTPUT 5.1.4

A sustained worldwide network of laboratories and expertise specialized in avian influenza to provide technical information on H5N1 virus and facilitate technology transfer

Activities

- Develop, through the OFFLU network, standardized guidelines for the diagnosis and surveillance of HPAI and promote their adoption by national laboratories in all partner countries
- Exchange technical information and key reagents between OFFLU and national laboratories
- Ensure publication and dissemination of results of coordinated research programmes and studies on the H5N1 virus

5.2 DISEASE CONTROL STRATEGIES AND OPTIONS (that are technically sound, economically sustainable, ecologically appropriate and socially acceptable are available and communicated to decision-makers)

OUTPUT 5.2.1

Improved global strategy for prevention and control of HPAI developed, costed and assessed for cost effectiveness, and made available to interested parties

Activities

- Review and analyse emerging information on disease control and research results from targeted projects to formulate and update technical recommendations
- Assess cost-effectiveness, and ecological and socio-economic impact, before recommending interventions for disease control
- Develop guidelines and procedures for HPAI prevention, detection and outbreak response and promote their integration in regional and national disease control strategies

OUTPUT 5.2.2

Improved sustainable surveillance systems which take into account all farming systems (from commercial farms to village backyard) are defined, costed and made available

Activities

- Document and publish analyses of existing surveillance systems and their value
- Document and publish reports on public-private partnerships in surveillance
- Analyse, document and publish reports on participatory village/smallholder surveillance systems

OUTPUT 5.2.3

Epidemiological analysis of HPAI and its control is carried out with a view to identifying risk factors, disease drivers and potential control interventions

Activities

- Identify critical points for HPAI control in poultry production sectors and market chains, and make this information available
- Document and make available epidemiological, disease intelligence and prediction information

OUTPUT 5.2.4

Preventive tools, methods and strategies for vaccination and biosecurity are defined, costed and made available

Activities

- Develop and publish guidelines and strategies for biosecurity and vaccination

OUTPUT 5.2.5

Socioeconomic and policy analysis of avian influenza and its control is carried out with a view to defining prevention and control strategies which are socially and economically acceptable and sustainable

Activities

- Document and publish studies on market chains
- Document and make available guidelines for compensation systems
- Assess prevention and control programmes to ensure that poor families, especially women, are benefiting from HPAI programmes
- Analyse and publish the impact of HPAI on economic growth, food security and farmers' livelihoods
- Develop and publish solutions for mitigating the adverse effects of HPAI and prevention-control programmes on small and poor farmers

OUTPUT 5.2.6

Improved understanding of global migratory bird movements and the potential for their contact with poultry and spread of disease

Activities

- Document and publish scientific information on global migratory bird movements and advise on its use in risk mapping and surveillance by participating countries
- Identify knowledge gaps and secure funding support and coordinate with partner organizations and institutions to conduct needed research
- Produce guidelines for wildlife disease surveillance and make available to interested parties

OUTPUT 5.2.7

Communication practices developed and promoted to inform and influence poultry producers, consumers and policy development

Activities

- Provide expertise in communication, community awareness/engagement and social mobilization
- Organize training workshops for outbreak/risk communication
- Produce messages related to HPAI aetiology, recognition, diagnosis, epidemiology, prevention and control
- Develop and implement communication strategies in partner countries

5.3 REGIONAL AND NATIONAL CAPACITIES AND COMPETENCIES (are developed for effective prevention and control of HPAI in the animal population)

OUTPUT 5.3.1

Improved regional coordination and networking

Activities

- Establish and expand regional ECTAD units
- Facilitate preparation of regional action plans and their endorsement and implementation by all concerned parties
- Establish regional epidemiology, socioeconomic and laboratory networks in target regions and implement regular exchange of information
- Conduct regular regional coordination and technical meetings for veterinary officials and relevant staff

OUTPUT 5.3.2

Enhanced national capacity for HPAI preparedness and response

Activities

- Conduct country assessments to appraise preparedness plans and identify gaps or resource needs
- Provide assistance, training and advice to all partner countries to develop and test national preparedness and response plans
- Provide training and secure resources to all partner countries to ensure teams are in place to rapidly stamp out any reported outbreaks of HPAI
- Assist in implementing projects by providing technical advice, tools and training
- Advise and assist with review of legal and financial capacity to implement control and eradication plans, including compensation and protection of the livelihoods of the most vulnerable

OUTPUT 5.3.3

Surveillance and diagnostic capabilities to rapidly detect HPAI

Activities

- Provide expertise to assess existing national resources for conducting surveillance and diagnosis
- Provide advice, training and assistance to establish surveillance systems in participating countries for early warning and early detection of HPAI
- Provide laboratory equipment and supplies where needed
- Provide training and resources in sample collection and submission to diagnostic laboratories.
- Facilitate efficient transport of diagnostic samples to international reference laboratories
- Secure resources and oversee implementation of laboratory refurbishment to achieve diagnostic competence in participating countries

OUTPUT 5.3.4

Resources, strategic plans and long-term programmes are in place in endemically infected countries to achieve progressive control of HPAI

Activities

- Analyse and integrate results of specific studies on epidemiology, socioeconomic and wildlife issues into national disease control plans
- Provide advice and advocate for funding and resources to sustain ongoing control programmes in order to progressively reduce the incidence of HPAI
- Review ongoing control programmes to ensure that they are livelihood-sensitive and protect the most vulnerable members of society
- Assist government authorities in the implementation of disease control and provide inputs, including equipment, vaccine and other consumables

CHAPTER 6
OVERVIEW OF PROGRAMME COSTS AND FUNDING

6.1 FUNDING REQUIREMENTS

The FAO-OIE Global Programme presented at the Beijing international pledging conference in January 2006 called for a three-year (2006-2008) budget of US$494 million to tackle HPAI at source in animals, mainly in Southeast Asia. However, as HPAI spread to Africa, Central Asia, the Middle East and Europe, affected countries and many countries at risk of infection, but with limited veterinary capacity, turned to FAO for technical expertise and support.

In March 2006, FAO upped the estimate of the amount needed for the Global HPAI Programme to US$882 million, excluding eventual funds needed for compensation schemes. Within this overall funding estimate, FAO's share was set at US$308 million over the three-year period (2006-2008). The estimation by year of the Programme and total funds received against these estimates are shown in Table 1.

Table 1 Received vs estimated funding for FAO's Global Programme

Component	2006	2007	2008	Total (US$)
Global and regional coordination	47 745 391	42 314 991	41 918 390	131 978 772
Country support (infected, newly-infected and at-risk countries)	83 212 901	48 220 030	45 094 660	176 527 591
Total funds requested	130 958292	90 535 021	87 013 050	308 506 363

6.2 CURRENT FUNDING SITUATION

As of December 2007, total contributions to FAO's Global Programme amounted to UIS$187 million, of which FAO had contributed US$9.7 million through its Technical Cooperation Programme (TCP) projects. Funding up to the end of 2008 is US$121.4 million short of the original estimate (see Table 2).

Table 2 Current funding shortfall for FAO's Global Programme

Totals	Total (US$)
Funds requested	308 506 363
Funds received	187 136 374
Funding gap up to end of 2008	121 369 989
Funds in pipeline	25 971 830

6.3 FUNDING MECHANISMS

FAO's Technical Cooperation Programme

FAO has allocated US$9.7 million of its own funds through 25 national and regional emergency projects under its Technical Cooperation Programme (TCP). These projects, developed and implemented in Asia, Eastern Europe, the Middle East, Africa and Latin America and the Caribbean, formed the core of FAO's first reaction to the HPAI crisis during the early phase before donor funding became available. This financial commitment was not only a reflection of the seriousness with which FAO viewed the HPAI crisis but also a signal to donors of the scale of investment required to combat and eradicate the threat of HPAI.

Donors

To date, the Global Programme has received financial support from 29 countries and institutions through bilateral and multi-funding.

Donors frequently earmark funds for particular countries or regions according to their policy priorities and the nature of the emergency in question. Since the beginning of the Programme, FAO has attracted 133 donor-funded projects (including those financed with its own funds) worth US$187 million. A further 13 donor-funded projects (for a value of US$26 million) are at various points of the funding 'pipeline'. The most substantial commitment of funds for the Programme has been to assist countries in Asia and Africa, although a significant proportion of funding has been allocated to global projects (i.e. projects that embrace countries in different regions of the world).

Special Fund for Emergency and Rehabilitation Activities (SFERA)

A significant portion of the Programme's funding has been channelled through the Special Fund for Emergency and Rehabilitation Activities (SFERA). ECTAD can draw on this facility when it needs to react rapidly in emergency situations. The value added of SFERA for Global Programme activities, many of which require a rapid and often unplanned response, is that SFERA funds are not tied to determined programmes or countries/regions; this means that they can be allocated in a timely fashion to meet the needs and priorities of the moment.

As of December 2007, 10 donors had contributed US$40.1 million to SFERA for HPAI operations, representing almost 21 percent of FAO's total funding portfolio for HPAI activities (see Table 3).

Table 3 Donor funding for SFERA (December 2007)

Donor	Amount (US$)
Sweden	16 594 537
United Kingdom	6 876 228
France	6 635 910
Switzerland	3 696 573
Norway	3 506 326
Saudi Arabia	1 000 000
OPEC Fund	700 000
China, People's Republic of	500 000
Greece	188 442
Jordan	50 000
TOTAL	**40, 108,016**

CHAPTER 7
PROGRAMME MONITORING AND EVALUATION

7.1 PROGRAMME MONITORING

Within ECTAD, the global coordination unit is responsible for the accounting, monitoring and reporting of all HPAI activities against the Global Programme's components. The unit's responsibilities include the continuous update of all programme and project data in a specially designed application called the Field Programme Management Information System (FPMIS). A special emergency module within this application serves as a repository for all information related to a programme and individual projects within a programme, including information about donor contributions, beneficiary countries, financial commitments, project activities, field budget authorizations and reporting. The Global Programme's overall funding reports are extracted from FPMIS. In addition, all HPAI activities are accounted for against each of the Global Programme components to ensure transparent and timely reporting to donors.

7.2 PROGRAMME EVALUATION

Late in 2006, a process of evaluation of FAO's response to HPAI, managed by the Evaluation Service (PBEE), was initiated and was planned to include real-time evaluations (RTEs) as well as a final evaluation. The first RTE started in February 2007 and was completed in May 2007. It was intended to provide immediate feedback and guidance to FAO management on strategic and operational achievements and constraints in order to improve the relevance, effectiveness and efficiency of FAO's work on HPAI; to promote accountability to governments, donors and other stakeholders on the use of resources; to reinforce participation, transparency and communication; to identify gaps or unintended outcomes, with a view to improving the FAO's strategic and programme approach, orientation, coherence, coordination and implementation; and to provide a first assessment of the validity of institutional changes (i.e. ECTAD, CMC-AH).

This RTE covered FAO's entire Global Programme to assess

- management and coordination of the Global Programme at the level of FAO headquarters and the Regional Office for Asia, including working relations with major implementing partners and governments
- implementation of the Programme in countries infected early in the panzootic (sample countries: Indonesia, Thailand and Viet Nam) and newly-infected countries (Egypt and Nigeria)
- support to at-risk countries in preparedness for HPAI (Ethiopia and regional TCPs)

After comments from a Peer Review Panel and a Consultative Group, the RTE report was submitted to FAO management, which has responded positively and already implemented many of the recommendations. A second RTE is planned for 2008.

7.3 REPORTING

A comprehensive report on the activities and outcomes of the Global Programme up to mid-2007, *Report (November 2007) - Global Programme for the Prevention and Control of Highly Pathogenic Avian Influenza,* has been prepared by ECTAD and is available on the FAO web site http://www.fao.org/docs/eims/upload//236620/I0026E00.pdf.

ANNEX 1
LOGICAL FRAMEWORK

	Verifiable indicators	Means of verification	Assumptions
OVERALL GOAL			
To safeguard animal health and livelihoods from the threat of Highly Pathogenic Avian Influenza (HPAI) and mitigate the risk of a human pandemic			
PURPOSE			
Prevent and control HPAI in the animal population while protecting livelihoods	• Number of H5N1 influenza outbreaks in poultry and poultry mortality remain reduced below 2004-2005 levels in all target regions • Smallholders and the rural poor benefiting from HPAI control programmes • Impact of HPAI on economic growth, food security, farmer livelihoods	• Reports from OIE and FAO • Donor review and assessment reports • Stakeholder and participants reports and feedback	• No other epidemic or major natural calamities which may affect target regions and countries • International community committed to supporting HPAI control
OUTCOMES			
1. Coordinated and efficient global response to HPAI	• Global and regional coordinating and response mechanisms are in place and functioning • Funds committed and received in support of HPAI control	• Documented coordination and management structure • Donor meetings and financial reports	• Donors remain committed to HPAI control and financial resources are available without undue delay • Partner countries, regional organizations and private stakeholders are engaged in HPAI control and the development of instruments and arrangements to support national, regional and global control strategies policies
2. Disease control strategies and options that are technically sound, economically sustainable, ecologically appropriate and socially acceptable are available and communicated to decision-makers	• Improved regional/national policies adopted by countries to control HPAI • Socioeconomic dimensions of disease control considered in national plans	• Country strategic plans • Interviews with recipient countries and partner organizations	
3. Regional and national capacities and competencies are developed to prevent and control HPAI outbreaks	• Personnel and material resources to rapidly control HPAI outbreaks in place in participating countries	• Country reports • Reports from international and regional organizations • Reports on country assessments and results of simulation exercises	

	Verifiable indicators	Means of verification	Assumptions
OUTPUTS			
1. Coordinated and efficient global response to HPAI			
1.1. Global framework for sustainable management of avian influenza and the risk of a human pandemic	• FAO/OIE Global Strategy and FAO Global Programme developed and regularly revised to accommodate the changing situation in the field • Technical/policy papers jointly developed among lead agencies • UN Consolidated Action Plan for avian and human influenza developed and revised every six months	• Published Global Strategy and Global Programme • Technical documents released by UN agencies and OIE • Published UN Consolidated Action Plan	• Donors remain engaged and financial resources are available without undue delay • Partner countries, regional organizations and private stakeholders are engaged in HPAI control and the development of instruments and arrangements to support national, regional and global control strategies policies • Regional cooperation among countries remains strong • Governments, international partners and laboratories are willing to exchange timely information on disease outbreaks and virus isolates, and provide regular updates
1.2. Timely disease information exchange in place within and between countries and regions, and globally, resulting in improved early warning disease intervention	• Disease information and maps generated by the Global Early Warning System (GLEWS) and transmitted to the international community • Scientific/technical information on the virus ecology and disease epidemiology, including risk maps and predicting models, published and available to countries	• GLEWS reports • Reports of studies commissioned by GLEWS • Mechanisms for timely distribution of information • FAO website	
1.3 Capability to rapidly and effectively respond to suspected and confirmed outbreaks of HPAI worldwide	• Quick support (within 7 days) from the CMC-AH rapid response facility for early action to assist all participating newly contaminated countries with suspected or confirmed outbreaks of HPAI • Development and updating of SOPs for emergency response • A cadre of international professionals/ experts trained and on stand-by for immediate deployment • Stockpile of key emergency equipment and supplies for HPAI surveillance and control established at HQ and regularly updated • Flexible funding mechanisms for mobilization of contingency funds	• CMC-AH reports and updates • Roster of CMC-AH experts • CMC-AH SOPs • Inventory of global stock and procurement records • Funding reports	
1.4 Sustained worldwide network of reference laboratories and expertise specialized in avian influenza to provide technical information on H5N1 virus and facilitate technology transfer	• Adoption of standardized guidelines for diagnosis and surveillance of HPAI by national laboratories in all partner countries • Exchange of technical information, reagents	• Reference laboratory reports • Review and assessment reports by donors and consultants • OFFLU scientific publications and	

	and virus isolates between OFFLU laboratories and national laboratories • Results of coordinated research programmes and studies on the H5N1 virus	reports	

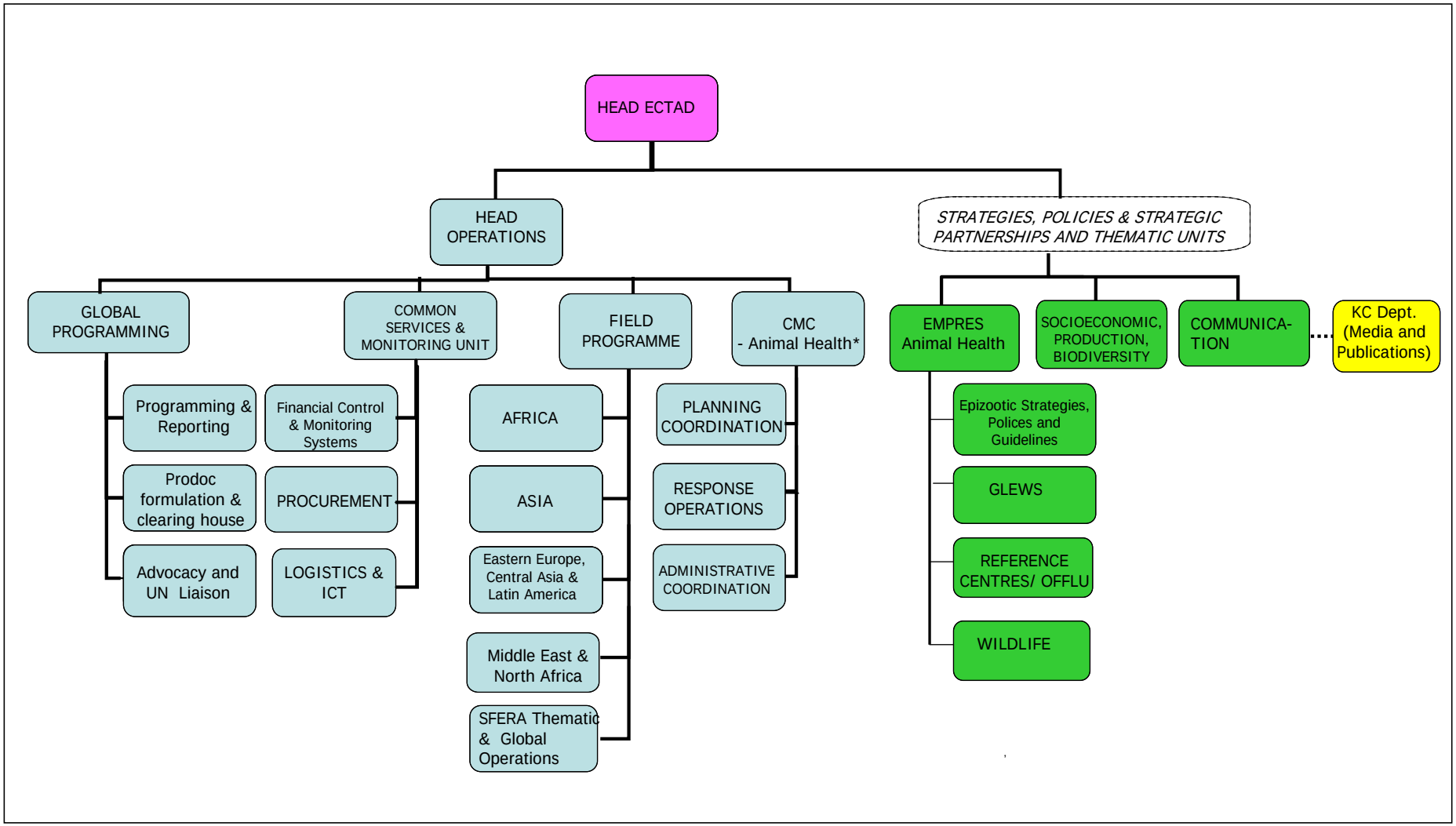
2. Disease control strategies that are technically sound, economically sustainable, ecologically appropriate and socially acceptable are available and communicated to decision-makers			
2.1 Improved technical tools and methods for prevention and control of HPAI developed, assessed for cost-effectiveness and made available to interested parties	• Guidelines and procedures for HPAI prevention,, detection and outbreak response available and integrated in national and regional disease control strategies • Biosecurity guidelines and vaccination strategies available	• National disease control plans in target regions • Published guidelines and strategies for biosecuriy and vaccination	
2.2 Improved and sustainable surveillance systems are defined, costed and made available	• Analysis of existing surveillance systems and their value documented and published • Surveillance systems for all farming systems documented and published • Public-private partnership in surveillance systems documented and published • Participatory village/small holder surveillance systems documented, analysed and published	• Publications and documents reporting results of analysis of surveillance systems • Surveillance study reports	
2.3 Epidemiological analysis of avian influenza performed in order to identify risk factors, disease drivers and potential control interventions	• Epidemiological, disease intelligence and prediction analysis available • Critical points for HPAI control identified in the poultry production sectors and market chains	• Study reports from selected countries	
2.4 Understanding and consideration of the impacts of HPAI and its control on poultry genetic diversity	• Documentation of the effects of HPAI control on poultry genetic diversity; guidelines on how to consider unique genetic resources in control programmes.	• Study reports and publications	
2.5 Socioeconomic and policy analysis of avian influenza and its control performed in order to improve and refine prevention and control strategies	• Compensation systems documented and available • Documented and published studies on market chains • Impact of HPAI on economic growth, food security, farmers livelihoods • Cost-benefit of prevention and control programmes analysis • Solutions to mitigate adverse effects of HPAI and prevention-control programmes on small and poor farmers documented and	• Published documents on compensation systems and market chains • Published reports on impact of HPAI programme implementation on economic growth, food security and farmer livelihoods and their mitigation • Reports on cost-benefit analysis of prevention and control programmes	

	published • Policy analysis	• Reports on analysis of policy	
2.6. Improved understanding of global migratory bird movements and the potential for their contact with domestic poultry as related to the spread of disease	• Scientific information on global migratory bird movements documented, published and being used by countries for risk mapping and targeted surveillance and HPAI control • Guidelines for wildlife disease surveillance available and communicated to interested parties	• Study reports and publications • Weekly migratory maps on FAO website • National disease control plans in target regions	
2.7. Communication practices developed and promoted to inform and influence poultry producers, consumers and policy development	• Messages related to HPAI aetiology, recognition, diagnosis, epidemiology, prevention and control communicated to different target groups according to FAO guidelines by the end of 2007 • Communication strategies developed and implemented in partner countries by the end of 2008	• Interviews with recipient countries and partner organizations • Consultant reports from selected countries • Publicity materials and public awareness	

3. Regional and national capacities and competencies are developed to prevent and control HPAI outbreaks			
3.1. Improved regional coordination and networking	• Regional Animal Health Centres and ECTAD decentralized units established or expanded and facilitating capacity development for control of HPAI and other TADs • Regional action plans prepared, endorsed by all concerned parties and implemented • Regional epidemiology and laboratory networks established in target regions and implemented for regular exchange of epidemiological and laboratory information • Regional socioeconomic networks established in target regions and implemented for regular exchanges in socioeconomic, farming systems and biodiversity information • Regular coordination and technical meetings of veterinary officials and relevant staff	• Progress reports and newsletters from the regions • Documented regional action plans • National project and programme reports and briefs • Reports of laboratory, epidemiology and socioeconomic networking activities • Meeting and workshop reports and recommendations	
3.2. Enhanced national capacity for HPAI preparedness and response	• By end of 2008, all partner countries with emergency preparedness plans in place and tested to prepare for incursion of infection • Trained and well-resourced teams in place to rapidly stamp out any reported outbreaks in all partner countries by the end of the second year	• National contingency plans • Simulation exercise reports • Progress reports, newsletters and briefs from each national project	

3.3 Surveillance and diagnostic capabilities to rapidly detect avian influenza virus	• Functioning surveillance systems in place for early warning and early detection in all partner countries by end of 2008 • Mechanisms in place for efficient transport of specimens to international reference/OFFLU laboratories • 90% of partner countries have each at least one laboratory per country with the capacity (BSL2) for accurate and timely diagnosis of avian influenza virus by the end of 2008	• National disease surveillance reports • National laboratory assessment reports • Progress reports, newsletters and briefs from each national project	
3.4 Endemically affected countries having in place resources, sound strategic plans and long-term approaches to guide programmes of progressive HPAI control	• Results of specific studies on epidemiology, socioeconomic and wildlife issues integrated into national disease control programmes • Incidence of H5N1 HPAI reduced in endemic countries • Livelihoods-sensitive programmes and approaches received in affected countries	• Reports of studies conducted in affected countries • National strategic plans in target countries • Country progress reports and briefs • OIE/FAO reports on the disease situation in affected countries • Country and stakeholder feedback	

ANNEX 2
ECTAD ORGANIGRAM



**The Crisis Management Centre (CMC)/Animal Health as shown in the above organigram is part of a wider CMC that will also serve for other crises.*

ANNEX 3
GEOGRAPHIC COVERAGE OF REGIONAL ANIMAL HEALTH CENTRES