



# FAO Regional Strategy

for Highly Pathogenic Avian Influenza  
and other Emerging Infectious Diseases of Animals  
in Asia and the Pacific

2010–2015





# **FAO Regional Strategy**

for Highly Pathogenic Avian Influenza  
and other Emerging Infectious Diseases of Animals  
in Asia and the Pacific

2010–2015



EMERGENCY CENTRE FOR TRANSBOUNDARY ANIMAL DISEASES  
REGIONAL OFFICE FOR ASIA AND THE PACIFIC

FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS  
Bangkok, March 2010



The designations employed and the presentation of material in this information product do not imply the expression of any opinion whatsoever on the part of the Food and Agriculture Organization of the United Nations (FAO) concerning the legal or development status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. The mention of specific companies or products of manufacturers, whether or not these have been patented, does not imply that these have been endorsed or recommended by FAO in preference to others of a similar nature that are not mentioned.

All rights reserved. Reproduction and dissemination of material in this information product for educational or other non-commercial purposes are authorized without any prior written permission from the copyright holders provided the source is fully acknowledged. Reproduction of material in this information product for resale or other commercial purposes is prohibited without written permission of the copyright holders. Applications for such permission should be addressed to:

Chief  
Electronic Publishing Policy and Support Branch  
Communication Division  
FAO  
Viale delle Terme di Caracalla, 00153 Rome, Italy  
or by e-mail to: [copyright@fao.org](mailto:copyright@fao.org)

## Table of content

Abbreviations and acronyms	v
Executive summary	vii
<b>Part I – Background</b>	<b>1</b>
1.1 The historical perspective	1
1.2 The current status of emerging infectious diseases in the region	3
1.3 Key achievements and lessons learned from the HPAI programme	4
1.4 Guiding principles for the Regional Strategy	6
<b>Part II – The strategic framework</b>	<b>9</b>
2.1 Vision and goal	9
2.2 The strategic approach	9
2.2.1 <i>HPAI prevention and control</i>	10
2.2.2 <i>Emerging infectious diseases</i>	13
2.3 The strategic components – <i>objectives and planned outcomes</i>	14
<b>Part III – Implementing prevention and control initiatives</b>	<b>18</b>
3.1 FAO implementation mechanisms and partnership	18
3.2 Current and planned project implementation	20
3.3 Monitoring and evaluation	20
3.4 Regional communication strategy	21
<b>Annexes</b>	<b>23</b>
Annex 1: Key lessons learned in implementing the HPAI programme	23
Annex 2: Current and planned project implementation	24
2.1 <i>Projects currently being implemented in the region</i>	24
2.2 <i>Projects currently being planned in the region</i>	28
Annex 3: Indicators for assessment of progress against planned outcomes	29
Annex 4: References	32

## Abbreviations and acronyms

ASEAN	Association of Southeast Asian Nations
FCC	Food Chain Crisis Management Framework (FAO)
FCC-EMU	Food Chain Crisis – Emergency Management Unit (FAO)
ECTAD	Emergency Centre for Transboundary Animal Diseases (FAO)
ECTAD-RAP	Emergency Centre for Transboundary Animal Diseases - Regional Office for Asia and the Pacific (FAO)
EID	Emerging infectious disease
EMPRES	Emergency Prevention System for Transboundary Animal and Plant Pests and Diseases
FETPV	Field Epidemiology Training Program for Veterinarians
FMD	Foot-and-mouth disease
GF-TADs	Global Framework for the Progressive Control of Transboundary Animal Diseases (FAO/OIE)
GLEWS	Global Early Warning and Response System for Major Animal Diseases, including Zoonoses (FAO/OIE/WHO)
H5N1	A sub-type of influenza A virus
H1N1	A sub-type of influenza A virus
HPAI	Highly Pathogenic Avian Influenza
HPED	Highly pathogenic emerging diseases
OFFLU	Joint OIE/FAO network of expertise on influenza
OIE	World Organisation for Animal Health
PPR	Peste des petits ruminants
PRRS	Porcine reproductive and respiratory syndrome
PVS	OIE performance of veterinary services tool
RAP	Regional Office for Asia and the Pacific (FAO)
SAARC	South Asian Association for Regional Cooperation
SARS	Severe acute respiratory syndrome
SEAFMD	Southeast Asian Foot-and-Mouth Disease Campaign (OIE)
SPC	Secretariat for the Pacific Community
TADs	Transboundary animal diseases
WHO	World Health Organization





A chicken farm being disinfected in Indonesia

Credit: FAO/Avian Influenza Team Indonesia

## EXECUTIVE SUMMARY

This *Regional Strategy for Highly Pathogenic Avian Influenza and other Emerging Infectious Diseases of Animals in Asia and the Pacific* has been prepared by the Food and Agriculture Organization of the United Nations (FAO). It is a revision of the Strategic Framework for Highly Pathogenic Avian Influenza Prevention and Control in Southeast Asia developed in May 2006. The Strategy has been revised in recognition of the changing situation of Highly Pathogenic Avian Influenza (HPAI) in the region and advances in knowledge about approaches to its control. It also reflects the international recognition of the regular emergence of new infectious diseases that threaten food security, food safety and human health and the need for interventions that address surveillance and preparedness capabilities for emerging infectious diseases (EIDs) in a broader context.

vii

The Strategy provides a vision for a common approach to address the ongoing problem of HPAI and EIDs, and serves to harmonize activities of various partners and donor agencies within the region.

Since HPAI, caused by the H5N1 strain of influenza A virus, first spread from China to Southeast Asian countries more than six years ago, Asia has been a major focus of international efforts to contain and achieve effective control of the disease. In that time, the disease has been introduced and subsequently eliminated from several countries in the Asia and Pacific region, including Japan, Korea and Malaysia. Notable success in the control of HPAI has been achieved in China, Thailand and Viet Nam. Other countries in the region continue to face challenges to achieve sustainable control of the disease, including Indonesia, one of the most heavily infected countries in the world, and Bangladesh where the disease is entrenched.

The threat to the world's poultry industries and to human health remains, as does the imperative to continue efforts to achieve sustained control of the disease. While rapid and effective emergency interventions can eliminate the disease; a longer-term approach is required in countries or areas of entrenched infection. The reasons why such entrenched infection continues are complex but include inadequacy of veterinary services, poultry industries characterized by high poultry density and poor biosecurity practices, poor regulation of the market chain and other broader national development issues. A successful long-term approach must encompass risk reduction measures to reduce HPAI transmission.

The world is coming under increasing risk of EIDs that threaten human health globally. H5N1 virus is one of several that have emanated in the Asia and Pacific region in recent years, including Nipah virus infection (Malaysia 1998), the severe acute respiratory syndrome (China 2003) and the Ebola-Reston virus (Philippines 2008). Other zoonotic diseases (those transmitted from animals to humans) are threatening to expand their range, including rabies in Indonesia which has recently spread to the islands of Flores and Bali. The 2009 influenza pandemic caused by a novel influenza A(H1N1) virus again demonstrated the threat of viruses moving from animals to humans. As a result of these

disease occurrences, there is an increasing commitment from the international community to address EID threats on a systemic basis, recognising the complex of human, livestock and environmental issues involved and the need to address underlying weaknesses in preventative measures. This has led to the development of a “One World, One Health” initiative, a comprehensive, multi-sectoral approach to EID prevention and control.

FAO recognises its mandate to take a leading role in the support for HPAI prevention and control and to broaden its approach to encompass other EIDs, in conjunction with other international partners, in particular the World Organisation for Animal Health (OIE) and the World Health Organization (WHO). FAO established Emergency Centre for Transboundary Animal Diseases (ECTAD) units with a regional presence in Bangkok and national units in several countries in the Asia and Pacific region.

viii

This Regional Strategy documents the approach to continue to support HPAI prevention and control and to extend its scope to address the concerns of emerging and re-emerging infectious diseases. The approach is consistent with the FAO Medium Term Plan for 2010-2013, the multi-agency document ‘Contributing to One World, One Health: A strategic framework for reducing risks of infectious diseases in the animal-human-ecosystems interface (FAO, OIE, WHO, UNSIC, UNICEF and the World Bank, October 2008), and the joint FAO/OIE Global Framework for Progressive Control of Transboundary Animal Diseases (GF-TADs).

The vision of this Regional Strategy is to eliminate the threat posed by HPAI and other EIDs to the livelihoods and health of the human population nationally, regionally and globally. The goal is to guide the Regional ECTAD Unit in the support it provides to countries and regional organizations in Asia and the Pacific, through coordination, technical advice, information and capacity building for preparedness, prevention and control of HPAI and other EIDs.

There are two major thrusts to the Strategy. The first is to continue supporting HPAI prevention and control measures. The second is to broaden appropriate components of that support to embrace the needs for other EIDs that are of international importance or high national priority.

A major focus of the HPAI support is for risk management in areas represented by a country or cluster of countries such as the Gangetic Plains, the greater Mekong sub-region and Indonesia where the disease is entrenched. These high-risk areas require greater emphasis on long-term risk reduction measures and collaboration between countries in the geographic clusters by:

- gaining a better understanding of the risk factors for HPAI transmission and maintenance through cross-border studies on market chains, farming systems, socio-economic environment and characterization of viruses;
- improving HPAI outbreak response; and
- promoting collaborative regional activities including advocacy for a coordinated approach and collaboration in planning and information exchange.



The regional approaches to HPAI and EID prevention and control will involve an expansion of attention from HPAI to other EIDs by:

- continuing emphasis on national emergency preparedness in all countries of the region, including the 22 Pacific island countries and territories;
- identifying needs and pursuing improved control efforts for priority EIDs including influenza A(H1N1);
- support for enhancing the capacity of national veterinary services, including assisting countries to address constraints identified by application of the OIE performance of veterinary services tool; and
- regional policy development for improved control of foot-and-mouth disease, classical swine fever, peste des petits ruminants, porcine reproductive and respiratory syndrome, rabies and Ebola-Reston virus.

The Regional Strategy identifies planned outcomes to meet the following four objectives:

1. Provide technical options and advice for prevention and control of HPAI and other EIDs appropriate to the region.
2. Enhance capacity to implement and maintain national and regional approaches to animal disease prevention and control.
3. Coordinate regional activities including the further development of sustainable laboratory, epidemiology and socio-economic networks and information systems.
4. Advocate for commitment to prevention and control of EIDs within national governments, regional organizations and donors.

FAO plans to support, together with the regional representations of OIE and WHO, the development of Regional Support Units to assist the three key regional partners (the Association of Southeast Asian Nations, the South Asian Association for Regional Cooperation and the Secretariat for the Pacific Nations Community) to strengthen the ability of these organizations to sustain their own sub-regional initiatives in EID prevention and control. However, ultimately it is the national governments who implement their national programmes. The role of the FAO Regional ECTAD is to support national veterinary services in achieving their own priorities.

This Regional Strategy identifies the projects that are currently being implemented, or planned, relating to the objectives and expected outcomes. In synchrony with the Regional Strategy, FAO Regional ECTAD has developed a Regional Strategic Framework for Communication on HPAI and EIDs in Asia and the Pacific. This will support the implementation of the Regional Strategy, recognising that a high level of public awareness, knowledge and commitment is required to undertake risk reduction measures.



A wet market in Rangpur, Bangladesh

Credit: FAO/Avian Influenza Team Bangladesh

## PART I – BACKGROUND

### 1.1 The historical perspective

The strain of H5N1 Highly Pathogenic Avian Influenza (HPAI) first appeared in Southeast Asian countries more than six years ago. Since then it has spread globally, involving over 60 countries in Africa, Asia and Europe. The disease has caused significant economic losses due to high mortality and disruption in production and marketing resulting from control interventions. Severe markets shocks have also occurred in many countries caused by adverse consumer reaction. The disease has also infected more than 400 human beings with over 260 deaths<sup>1</sup>.

1

With a continuing toll on human lives there is still a concern that this virus, or a variant or reassortant of it, could cause sustained human to human transmission with pandemic spread. There have been successes in its control, and the disease has been eliminated from many countries in which it was detected soon after entry. These countries include, within the Asia and Pacific region, Japan, Korea and Malaysia. Other countries in the region have had considerable success in achieving varying levels of control, including Thailand, where widespread infection has been reduced to infrequent sporadic outbreaks of disease, Cambodia, Lao People's Democratic Republic and Myanmar, in which occasional outbreaks have been contained and China and Viet Nam, in which widespread vaccination and other measures have greatly reduced the impact of endemic disease. Indonesia continues to represent one of the most heavily and persistently infected countries in the world. It appears that the disease in Bangladesh has also become entrenched and there are concerns that this situation could extend to some parts of eastern India, particularly in West Bengal within the Gangetic plains. This represents a major geographic expansion of the regional HPAI programme.

The Food and Agriculture Organization of the United Nations (FAO) was quick to recognize the need to provide emergency assistance to many countries in the region. The Emergency Centre for Transboundary Animal Diseases (ECTAD) was established in December 2004 as FAO's corporate centre to respond to the HPAI emergency. The scope of ECTAD has since evolved. ECTAD provides assistance to member countries responding to the threat of transboundary animal health crises globally. The Chief Veterinary Officer (CVO) of FAO has full technical responsibility of ECTAD.

ECTAD is implemented through the FAO Food Chain Crisis Management Framework (FCC). The FCC, a comprehensive and interdisciplinary approach, is FAO's instrument for action in support of member countries in their effort to address the risks to the human food chain, at all stages from production to consumption. The Food Chain Crisis – Emergency Management Unit (FCC-EMU) is the operational arm of the FCC.

<sup>1</sup>Source: WHO



Through the FCC-EMU, ECTAD brings together FAO's technical skills from the Animal Production and Health Division and FAO's operational expertise from the Emergency Operations and Rehabilitation Division. ECTAD has developed extensive collaboration with the World Organisation for Animal Health (OIE) and the World Health Organization (WHO).

ECTAD-RAP, a regional ECTAD unit for Asia and the Pacific, was established in December 2005 at the FAO Regional Office for Asia and the Pacific (RAP)<sup>2</sup>. ECTAD-RAP is responsible for the management of country and regional project implementation and for collaboration with ECTAD Headquarters for the provision of technical expertise, backstopping and monitoring of project progress. A sub-regional unit for Asia was subsequently established in Kathmandu and several countries have designated country ECTAD units. These units comprise technical and operational personnel. Countries not having resident ECTAD personnel are supported directly by ECTAD-RAP. Currently ECTAD-RAP has ongoing projects in 11 countries<sup>3</sup>.

2

ECTAD is also a key component of the FAO/OIE Global Framework for the Progressive Control of Transboundary Animal Diseases (GF-TADs). GF-TADs supports member countries in the control of transboundary animal diseases (TADs) and animal health crises.

<sup>2</sup>ECTAD-RAP covers South Asia (8 countries), Southeast Asia (10 countries), China and the 22 Pacific Island countries and territories.

<sup>3</sup>ECTAD-RAP ongoing projects: South Asia (Bangladesh, India and Nepal) and Southeast Asia (Cambodia, China, Indonesia, Lao People's Democratic Republic, Myanmar, Philippines, Timor Leste and Viet Nam).



Disinfecting vehicles during the HPAI outbreak in West Bengal, India

Credit: FAO/M. Oberoi

## 1.2 The current status of emerging infectious diseases in the region

There is increasing global awareness, including within the donor community, of the need to control emerging and re-emerging zoonoses and transboundary diseases for the global public health good and in the interests of food security and protection of livelihoods. Thus, the FAO ECTAD-RAP programme addresses not only HPAI but other infectious zoonotic and non zoonotic animal diseases at the regional level. This broadening in approach represents a major priority in expanding the programme.

It has become clear that HPAI will remain endemic in some parts of the region, due to limited national veterinary services capacities, and the type of poultry production and marketing sectors characterized by high poultry density, poor biosecurity practices, inadequate market chain regulation and broader national development issues that dictate the ability of regulatory authorities to intervene and the priority they place on public expenditure for livestock disease control. The imperative to achieve improved control remains. There are continuing implications for human health and a continuing high cost of HPAI to the poultry industry in the region. While spread has occurred to many parts of the region in which the major risk-factors are present, other countries, including the 22 Pacific Island countries and territories, Timor Leste and the Philippines have remained free of the disease.

HPAI is neither the first zoonotic disease nor the last to arise in the region. Nipah virus infection occurred in pigs in Malaysia in 1998, devastating the pig industry and resulting also in human fatalities. The virus has its reservoir in fruit bats and encroachment of pig production into forest areas causing a close association between bats and pigs was thought to be the cause of the disease in pigs. Severe acute respiratory syndrome (SARS) arose in China in 2003, infecting about 8 000 people and subsequently spread to other countries, mainly Viet Nam, Singapore and Taiwan. It appears that human infection was transmitted from palm civets, occurring as a result of poor hygiene in live animal markets. SARS was eliminated as a human infection but remains in its wildlife reservoir in bats.

In 2008, the Ebola-Reston virus was identified in pigs in the Philippines, previously only known to occur in Philippine macaque monkeys. To date, its potential for human infection is uncertain but other sub-types of Ebola virus are highly pathogenic for humans. The virus persists in pigs in the Philippines with little clinical impact but as a continuing threat to human health.

Although rabies is widespread in Asia, there are areas that have become recently infected, including the islands of Flores and Bali in Indonesia. As human and animal populations increase in density they are brought into closer proximity and, combined with increasing mobility of people and trade goods, there is an expectation that new zoonotic diseases will continue to emerge and old ones will re-emerge or extend their geographic and species range.



The pandemic influenza A(H1N1), which was first identified in North America in April 2009, is another example of a zoonotic disease that can emerge through a complex interplay of the host range and virus diversity. It serves to increase awareness of the need to improve the capabilities of veterinary services and the hygiene of livestock production and marketing to limit the risk of emergence of human diseases that could have devastating impacts at a global level.

There are other transboundary livestock diseases that demand attention within the region because of their impact on livestock production with implications for farming livelihoods and food security. These include foot-and-mouth disease (FMD) and classical swine fever, both of which have been widely endemic in the region for many years, the porcine reproductive and respiratory syndrome (PRRS) which has been spreading throughout the region in recent years and peste des petits ruminants (PPR) which is now endemic in large parts of South Asia.

4

### **1.3 Key achievements and lessons learned from the HPAI programme**

Shortly after H5N1 HPAI was identified in late 2003 it was recognized that spread had already occurred to several countries, to include heavy and widespread infection in China, Viet Nam, Thailand and Indonesia, with sporadic outbreaks in Cambodia and Lao People's Democratic Republic. Over a period of two years substantial progress was made with controlling the disease, in Thailand by rapid and effective outbreak detection and containment and in China and Viet Nam by a combination of outbreak containment and vaccination. Strong industry interest was a key component of the successful campaign in Thailand, leading to a situation in which the disease is essentially under control with only infrequent isolated outbreaks. In China and Viet Nam endemic infection persists and intensive vaccination campaigns are challenged by constraints in achieving good coverage.

In countries in which the disease has become entrenched, it has become apparent that high poultry population density, large duck populations, poor biosecurity of production units, especially in the small-scale commercial sector and inadequate regulation of the market chain, represent major risk factors for maintenance and transmission of the disease. Under these circumstances, it is difficult to achieve sustained progress on reducing the incidence of HPAI without taking action to reduce these major risk factors.

However, the disease has shown a gradual stabilisation or reduction in incidence in most of the endemic areas, reflected generally in a reduction in the rate of human infection with H5N1 virus. This is probably at least in part due to the donor-funded efforts of national governments, supported by FAO and other international partners, to strengthen capacity and improve the technical approaches to HPAI prevention and control measures. It also must be recognized that steps taken by industry to improve biosecurity of poultry

production and practise preventative vaccination will have contributed to the reduction in HPAI incidence in endemic areas. Enhanced knowledge and understanding of community and individual beliefs and practices has resulted in a more effective and focused, community-based approach to communication and public awareness.

Although the HPAI programme has significantly raised the level of awareness amongst national governments, there is a risk of fatigue setting in as donors and national governments both face changing priorities. Donors recognize the threat posed by other emerging infectious diseases (EIDs)<sup>4</sup>. National governments see a need for a broader scope of support in capacity building and addressing prevention and control of livestock diseases of particular importance to specific countries, requiring longer-term interventions and longer funding cycles. There is recognition that a more holistic approach is needed to control EIDs embracing donor and national priorities and cross-sectoral collaboration between public health and animal health interests.

5

The key lessons learned from the implementation of the HPAI prevention and control campaign in Asia and the Pacific and their implications for developing a revised Strategy are summarized in Annex 1.

<sup>4</sup>The term '*emerging infectious diseases (EID)*' used in this document includes all emerging and re-emerging transboundary animal zoonotic and non-zoonotic diseases.



Building regional diagnostic capacity in collaboration with an international reference laboratory

Credit: FAO/P. Padungtod

## 1.4 Guiding principles for the Regional Strategy

This Strategy is a revision of the Strategic Framework for HPAI Prevention and Control in Southeast Asia developed in May 2006. It has been revised in recognition of the changing epidemiological situation of HPAI in the region, wider spread of the disease out of Southeast Asia to South Asia, and advances in knowledge about approaches to its control. It also reflects the international recognition of the difficulties in controlling HPAI, demonstrating the need for strengthening surveillance and preparedness capabilities for EIDs in a broader context.

6

### Key guiding principles for the revision of the Regional Strategy include:

- Prevention and control of EIDs is an international public good and requires strong political and financial commitments at national, regional and international levels.
- Actions should build on existing institutions and their mandates wherever possible and draw on lessons learned to refine strategies and interventions.
- A multidisciplinary approach is needed to integrate technical, social, political, policy and regulatory issues in addressing EIDs.
- Pro-poor interventions for infectious disease control must be supported to ensure that the livelihoods, food security and health of farmers and other industry participants are protected and improved.
- Because the risk of EIDs will persist, there is a need to strengthen national and international disease prevention and emergency response capabilities.

The development of the Regional Strategy has also been guided by several key documents<sup>5</sup>, including the FAO Medium Term Plan for 2010-2013, the FAO RAP Regional Priority Framework (2010-2020), the Global Strategy for Prevention and Control of H5N1 HPAI, the multi-agency One World, One Health initiative and the GF-TADs.

<sup>5</sup>References of the key documents are provided in Annex 4.

These documents are complementary and generally express certain key goals and objectives that are summarized below.

***Improved preparedness for EID emergencies:***

- timely surveillance and disease intelligence for early warning of livestock and zoonotic diseases;
- development of regional information systems and regional networks; and
- application of appropriate HPAI vaccination as part of a sustainable combination of risk-reduction activities.

***Effective response to emergencies:***

- strategies and decision support for prevention, control and elimination of animal, zoonotic, food-borne and vector-borne diseases with an integrated health concept across domestic animals, wildlife, humans and ecosystems;
- application of a regional approach to HPAI control through clustering of countries;
- engagement of the private sector in partnership with governments; and
- improving technical response to outbreaks using standard operating procedures.

***Improved transition and linkages between emergency, rehabilitation and development activities:***

- improvement of national animal health systems; and
- building national capacity for medium- and long-term interventions.

***Strengthen capacity of regional and sub-regional organizations:***

- building capacity within the key regional organizations such as the Association of Southeast Asian Nations (ASEAN), the South Asian Association for Regional Cooperation (SAARC) and the Secretariat for the Pacific Nations Community (SPC); and
- strengthening FAO regional ECTAD capacity.

***Promoting collaboration among regional organizations and donor agencies:***

- advocacy for greater political commitment of governments.

***Addressing livelihoods and food security issues through focus on a broader range of locally important diseases.***

***Application of strategic research to inform improved disease prevention and control strategies.***





A poultry farmer in Indonesia displays his produce



## PART II – THE STRATEGIC FRAMEWORK

### 2.1 Vision and goal

The **vision** of the Regional Strategy is to eliminate the threat posed by HPAI and other EIDs to the livelihoods and health of the human population nationally, regionally and globally.

In seeking to achieve that vision, the **goal** of the Regional Strategy is to guide ECTAD-RAP in the support it provides to countries and regional organizations in Asia and the Pacific, through coordination, technical advice, information and capacity building for preparedness, prevention and control of HPAI and other EIDs.

9

---

### 2.2 The strategic approach

There are two major thrusts of this Regional Strategy. The first is to support countries and regional organizations in their continuing work to improve preparedness, prevention and control measures for HPAI at regional and country levels. The second is to broaden appropriate components of that support to embrace the needs for other EIDs that cause significant and wide ranging impacts and thus are of regional and global importance and of high national priority.

## 2.2.1 HPAI prevention and control

### *Reducing HPAI incidence by risk management*

The Asia and Pacific region is characterized by several countries or parts of countries which are either at high-risk of HPAI introduction or in which the disease is entrenched, as a result of the existence of major risk factors. These factors include high poultry population densities – especially ducks, poor biosecurity of parts of the poultry production industry and inadequate market chain regulation. A major focus of this Strategy is to improve understanding and encourage countries to more effectively address these issues, accepting that this requires a long-term approach. Countries or parts of countries with entrenched HPAI or which are under constant threat of incursion are represented in the following geographic clusters:

- *Indo-Gangetic plains:* Bangladesh, India (West Bengal and Assam) and Nepal (southern provinces)
- *Greater Mekong sub-region:* Cambodia, China (south-eastern provinces), Lao People's Democratic Republic, Myanmar, Thailand and Viet Nam
- *Indonesia*

ECTAD-RAP will support FAO country teams in developing prevention and control strategies for HPAI appropriate to specific countries, with particular attention to the countries represented in these clusters. The major elements of these strategies are as follows:

1. *Placing a greater emphasis on a long-term approach to HPAI control in endemic countries by applying risk-reduction measures including:*
  - preventative vaccination activities that are properly planned, well executed to achieve high coverage, properly monitored to ensure satisfactory flock protection and which are either economically sustainable or else planned with a particular short-term objective and with an exit strategy;
  - improving biosecurity of poultry production with particular focus on farming practices in the small scale commercial sector, including addressing the issue of grazing ducks;
  - improving regulation and management of poultry movement along market chains, including cross-border movements, with appropriate veterinary hygiene measures to minimize spread of virus and improved public hygiene in markets to protect consumers from H5N1 infection and other zoonotic and food-borne diseases; and
  - promoting engagement between government regulatory authorities and commercial industry, to achieve solutions to HPAI control that are technically sound, economically feasible, culturally acceptable and that have regard to livelihoods as changes occur in commercial poultry production and marketing practices.
2. *Advocating and assisting collaboration between countries in the geographic clusters by:*
  - jointly addressing cross-border livestock trade management; and

- harmonizing between countries as appropriate, livestock movement and disease control regulations and interventions, to minimize undesirable informal trade across international borders.

### ***Gaining a better understanding of risk factors for HPAI transmission and maintenance***

There is a need to focus more strongly on understanding and prioritizing risk factors for both transmission and maintenance of HPAI. While the factors are known, their relative importance in particular production, marketing and ecological contexts is not always appreciated and this knowledge is critical for the application of technically sound HPAI prevention and control interventions. The key approaches are:

1. *Targeted and risk-based surveillance, focusing on duck populations, high-risk commercial production units, sampling along the market chain, identifying temporal trends and wildlife sampling as appropriate.*
2. *Integrating epidemiological and socio-economic studies in the poultry production and marketing sectors, including value-chain analysis, to identify risk factors and appropriate and effective intervention opportunities and to define incentives for people to accept and engage in HPAI control measures.*
3. *Application of molecular epidemiology as a tool to track the movement of HPAI virus strains between species and production sectors, along market chains and across international borders.*

11

### ***Improving HPAI outbreak response***

Outbreak response includes culling and disposal of infected poultry and poultry considered at high-risk of infection, decontamination of the immediate environment, containment of the disease by managing movement from the area and tracing of the source and likely spread of the disease where possible. These activities are designed to reduce the risk of dissemination of virus and are particularly important in the context of sporadic outbreaks. However, it is in any event necessary to promote the application of appropriate response activities to limit the risk of human exposure to H5N1 virus. Identified initiatives to be advocated include:

1. *Improved technical soundness of control activities by application of standard operating procedures for humane slaughter, disposal of carcasses and disinfection.*
2. *Deployment of rapid response teams that have received specialized training in HPAI diagnosis and outbreak containment, including community engagement.*
3. *Surveillance in the high-risk control area and backward and forward tracing from identified outbreaks, to determine source and extent of spread and quickly respond to related outbreaks.*
4. *Engendering community participation in suspected outbreak reporting and compliance with outbreak containment activities, including compensation for compulsory slaughter.*

### ***Collaborative regional activities***

ECTAD-RAP will promote collaborative regional activities by the following approaches:

- 1. Advocacy and project support for coordinated HPAI prevention and control activities between countries including collaboration in managing informal trade movements across borders, harmonization of national policies and disease control approaches and cooperative disease surveillance and risk identification activities.*
- 2. Collaboration with ASEAN, SAARC and other regional partners for planning and information exchange and support to other initiatives for promoting communication at the technical level between countries, with the objective of developing self-sustaining mechanisms managed by regional organizations in collaboration with national governments. This will include continuing support for achieving sustainable networking activities of laboratory, epidemiological and socio-economic expertise and for information-sharing.*



Village community forum on avian influenza in Cambodia

Credit: FAO/C. Dy



### 2.2.2 Emerging infectious diseases

The regional approach will involve an expansion of attention from HPAI to include other influenza viruses and EIDs by the following means:

1. *A continuing emphasis on national emergency preparedness with expansion to include not only HPAI but other EIDs and to include all countries in the region as required, such as the 22 Pacific Island countries and territories. This will include capacity building, assistance with contingency planning and supporting national disease surveillance activities to contribute to global intelligence through the FAO/OIE/WHO Global Early Warning System.*
2. *Assist countries and regional partners in identifying needs and pursuing improved control efforts for priority EIDs including influenza A(H1N1).*
3. *Regional policy development in ECTAD for improved control of FMD (in collaboration with the OIE Southeast Asian Foot-and-Mouth Disease Campaign [SEAFMD]), classical swine fever, PRRS, PPR (in South Asia), rabies and Ebola-Reston virus (in the Philippines) and subsequent advocacy and guidance to national governments and regional organizations.*
4. *Support for enhancing the capacity of national veterinary services, including assisting countries address constraints identified by the OIE performance of veterinary services tool (PVS).*



## 2.3 The strategic components – *objectives and planned outcome*

The following **objectives** have been identified as the steps that need to be taken to implement the Strategy.

### **1. Technical advice**

Provide technical options and advice for prevention and control of HPAI and other EIDs appropriate to the region.

### **2. Capacity building**

Enhance capacity to implement and maintain national and regional approaches to animal disease prevention and control.

### **3. Coordination**

Coordinate regional activities including the further development of sustainable laboratory, epidemiology and socio-economic networks and information systems.

### **4. Advocacy**

Advocate for commitment to prevention and control of EIDs within national governments, regional organizations and donors.

### **5. Collaboration**

Foster collaboration between national governments, national and regional partners and regional organizations for prevention and control of EIDs, incorporating national priorities and a focus on poverty alleviation.

### **6. Research**

Identify strategic research initiatives appropriate to the region and facilitate the engagement of national governments, research institutes, regional organizations and private industry in collaborative research undertakings

Following are the planned **outcomes** that will be sought in order to achieve the objectives.

***Objective 1 – Provide technical options and advice for prevention and control of HPAI and other EIDs appropriate to the region***

- 1.1 Regional organizations have HPAI and other EID control plans consistent with FAO recommendations.
- 1.2 Recommendations are made through ECTAD country teams to national governments, focusing on long-term risk-reduction for those countries within the cluster groups, for national plans for HPAI control that embrace the key strategic issues identified in this Regional Strategy.
- 1.3 National governments have technically sound plans for preparedness, prevention and control of specific EIDs of international, regional or national priority.
- 1.4 National governments and regional partners have technically appropriate proposals for facilitating the development of harmonized approaches between countries to HPAI prevention and control, particularly within the identified high-risk clusters.
- 1.5 ECTAD-RAP contributes to regional initiatives to inform and influence regulatory authorities and communities on risk-avoidance behaviour for HPAI prevention and control.

15

***Objective 2 – Enhance capacity to implement and maintain national and regional approaches to animal disease prevention and control***

- 2.1 The performance of ECTAD-RAP is improved with respect to providing backstopping technical support to ECTAD country teams, efficiency of logistic support and effective oversight of project design, monitoring and evaluation.
- 2.2 In collaboration with OIE, ASEAN, SAARC and SPC, three Regional Support Units are established in the sub-regions of Southeast Asia, South Asia and the Pacific<sup>6</sup>.
- 2.3 ECTAD-RAP assists national governments to obtain donor support for meeting veterinary service strengthening needs, including those identified through application of the OIE PVS tool.
- 2.4 FAO technical support for animal health emergencies in the region is provided by ECTAD-RAP, in conjunction with the FCC and including national expertise.
- 2.5 Regional technical training priorities are identified and facilitated, including epidemiology training and training to develop core skills and leadership in strategic communication.
- 2.6 ECTAD-RAP meets the needs of ECTAD country teams and of key regional institutions for support in resource mobilization and project design, formulation, reporting and monitoring.

<sup>6</sup>It is expected that support for this initiative will be provided through funding from the Commission of the European Communities.

***Objective 3 - Coordinate regional activities including the further development of sustainable laboratory, epidemiology and socio-economic networks and information systems***

- 3.1 Regional organizations progressively assume responsibility for management of regional networks, with initially an enhanced support and then a gradual reduction in support from ECTAD-RAP.
- 3.2 Animal health and cross-sectoral initiatives are effectively coordinated at the regional level, including those of other UN agencies, OIE, World Bank and the public health sector.

16

***Objective 4 - Advocate for commitment to prevention and control of EIDs within national governments, regional organizations and donors***

- 4.1 Strong national political support enhances the timeliness and effectiveness of project design and implementation for EID prevention and control.
- 4.2 National governments enact and apply appropriate legislation and recommendations to support EID preparedness, prevention and control.
- 4.3 Improved national collaboration is demonstrated between regulatory authorities and commercial industry for HPAI disease control, including formal agreements, joint activities and exchange of personnel and other inputs between public and private sectors.
- 4.4 Regional organizations, in particular ASEAN, SAARC and SPC, continue to assume responsibility for leadership of EID prevention and control initiatives in their sub-regions.
- 4.5 Donors accept the need for a long-term approach to HPAI control in entrenched clusters, including longer funding cycles, building national capacities and linking HPAI and other EID prevention and control to food security and supporting livelihoods.
- 4.6 ECTAD-RAP successfully negotiates with donors for the support for EID prevention and control interventions that meet donor and recipient government priorities.
- 4.7 Information sharing through existing FAO systems and through publication of programme results increases partner commitment to continuing support for EID prevention and control.

***Objective 5 - Foster collaboration between national governments, national and regional partners and regional organizations for prevention and control of HPAI and other EIDs, incorporating national priorities and a focus on poverty alleviation***

- 5.1 Meetings conducted between national government representatives, facilitated by regional partners and supported by ECTAD-RAP, contribute to effective management of cross-border risks in relation to HPAI transmission.
- 5.2 Sharing of HPAI field specimens between countries and with international reference laboratories enhances molecular epidemiological analysis for virus maintenance, spread and temporal changes.

- 5.3 Livestock disease control policy and legislation is harmonized between countries, in particular as it relates to transboundary spread within HPAI clusters or other epidemiologically or ecologically defined zones.
- 5.4 Forums for planning and information exchange and other initiatives for promoting information-sharing at the technical level between countries are supported, with the objective of developing self-sustaining mechanisms managed by regional organizations in collaboration with national governments.

***Objective 6 - Identify strategic research initiatives appropriate to the region and facilitate the engagement of national governments, research institutes, regional organizations and private industry in collaborative research undertakings***

- 6.1 Regional initiatives are adopted for multidisciplinary regionally harmonized research comprising epidemiology, molecular epidemiology, socio-economics and related studies to identify risk factors and understand disease dynamics.
- 6.2 Collaborative international research to further understand the role of migratory birds in the maintenance and spread of H5N1 virus are supported.
- 6.3 Improved H5N1 sample collection and submission to international reference laboratories through the OFFLU network improves knowledge of temporal changes and selection of appropriate vaccine strains for HPAI.



Hands-on training in laboratory biosafety and molecular diagnosis of avian influenza

Credit: FAO/I. Santos



## **PART III – IMPLEMENTING PREVENTION AND CONTROL INITIATIVES**

### **3.1 FAO implementation mechanisms and partnerships**

FAO has a key mandate for providing global leadership for prevention and control of TADs and other EIDs, which it shares with OIE and WHO. A number of mechanisms and tools have been developed by FAO in collaboration with several international, multi-lateral technical agencies, notably OIE and WHO, to address the problems of TADs and EIDs.

18

Under the FCC, FAO is providing prevention and early warning assistance to member countries through the well established Emergency Prevention System for Transboundary



Transporting poultry by motorcycle in Cambodia

Credit: FAO/C. Dy



Animal and Plant Pests and Diseases (EMPRES). EMPRES, through a formal agreement between the three international organizations (FAO, OIE and WHO) has developed a Global Early Warning and Response System for Major Animal Diseases, including Zoonoses (GLEWS) that utilizes a range of information sources to provide critical analysis of disease trends and early warning globally.

GF-TADs, a joint FAO/OIE initiative developed in collaboration with WHO, provides a broad framework for the control of TADs globally. GF-TADs has been endorsed by all the member countries of FAO and OIE. The establishment of ECTAD in collaboration with OIE in late 2004 is providing an implementation mechanism for rapid-, medium- and longer-term responses to animal disease crises. More recently, the Crisis Management Centre - Animal Health was established within ECTAD to rapidly deploy multidisciplinary teams to respond to immediate transboundary animal disease emergencies. The teams comprising representatives from WHO, OIE, the Centers for Disease Control and Prevention and FAO, as well as experts from the region have successfully responded to the emergence of Ebola-Reston virus in the Philippines, rabies in Indonesia, a severe respiratory and reproductive disease of pigs in Viet Nam and Brucellosis in Fiji.

Additionally, with the emergence of influenza A(H1N1) and its potential implication on livestock industry, FAO rapidly organized regional meetings to discuss and implement regional surveillance programmes in pigs and poultry in high-risk areas in Southeast Asia through collaboration with ASEAN.

The formation of OFFLU, the joint OIE/FAO network of expertise on major animal influenza viruses, is providing support at regional as well as national level in harmonizing laboratory protocols, making provision for defined reagents and providing a platform for facilitating sharing for virus information regionally and globally.

At the regional level, partnerships are equally critical to successful implementation of the programme for prevention and progressive control of EIDs. The key regional partners are ASEAN, SAARC and SPC, together with regional representations of OIE and WHO. The plan is to support the development of Regional Support Units to strengthen the ability of these three key regional organizations to sustain their own sub-regional initiatives in EID prevention and control.

Ultimately, it is the national governments who implement national programmes and ECTAD-RAP sees its role as essentially supporting national government veterinary services in achieving their own priorities and participating in international collaborative efforts to reduce the impact of EIDs. National ECTAD Units have been established in many of the countries currently affected or at risk from HPAI, including Bangladesh, Cambodia, China, India, Indonesia, Lao People's Democratic Republic, Myanmar, Nepal, Philippines, Timor Leste and Viet Nam. ECTAD National Units provide their support under the leadership of ECTAD-RAP.

FAO also works closely with its key donor partners to ensure that the programmes on TADs and EIDs control are funded in the long term. FAO will continue to expand and diversify its donor partnership over the next years to provide greater flexibility and sustainability to the control of TADs and EIDs.

## **3.2 Current and planned project implementation**

Projects that are currently being implemented are listed in Annex 2.1. This table illustrates how their components relate to the objectives and planned outcomes of the Regional Strategy. Annex 2.2 lists the projects that are currently under preparation.

It will be seen that while most of the support is at the country level, including multi-country, global and regional projects, there is also significant support already in place and planned for the regional projects.

## **3.3 Monitoring and evaluation**

FAO has a formal process for monitoring the implementation of projects. Each project document contains a logical framework outlining components of the project with performance indicators, means of verification and assumptions made. Regular reporting is applied, often specifically formatted to meet donor requirements. To avoid repetition, Annex 3 presents a summary table listing indicators of progress only, for the planned outcomes outlined in Section 2.3 of this Regional Strategy.

FAO also has a formal evaluation programme. For the HPAI prevention and control programme, this has been developed as a longitudinal Real Time Evaluation process.

Real Time Evaluation missions are undertaken in close collaboration with donors and implementing partners.

### 3.4 Regional communication strategy

A Regional Strategic Framework for Communication on HPAI and EIDs in Asia and the Pacific has been developed to complement this Regional Strategy. The formulation of the Strategy has been guided by a set of gaps identified and recommendations gathered through a review and consultative process, involving inputs at the global, regional and national level. A number of strategic goals on which FAO along with other relevant partners will focus, were identified and prioritized, guided by the key global and regional documents referred to in Section 1.4: Guiding Principles.

The purpose of the Strategy is to provide communication support to facilitate the effective implementation of the ECTAD Regional Strategy, recognising that a high level of public awareness, knowledge and a commitment to undertake risk reduction measures is required. The Strategy aims to facilitate an enabling policy and social environment that contributes to disease prevention and response, through strategic communication approaches and campaigns that are collaborative, coordinated and guided by experts.

#### **The Regional Strategic Framework for Communication on HPAI and EIDs in Asia and the Pacific identifies four key goals:**

1. Enhance in-country communication capacities and competencies in Ministries of Agriculture and Departments of Livestock Services to develop, implement and manage effective communication interventions to prevent and respond to disease outbreaks (in terms of risk communication, outbreak communication, social mobilization and communication for development).
2. Enhance regional/national communication strategies and interventions to prevent, control and/or respond to TADs/EIDs, through technical assistance and evidence-based inputs.
3. Enhance the coordination of regional/national responses to HPAI, TADs and EIDs by establishing new and strengthening existing collaborative partnerships, with a major focus on advocacy for greater engagement and promotion of Public-Private Sector partnerships.
4. Increase the visibility of regional and national ECTAD work in and impact on HPAI prevention and control.



An Indonesian backyard farmer

Credit: FAO/Avian Influenza Team Indonesia



## ANNEXES

### Annex 1: Key lessons learned in implementing the HPAI programme

This table summarizes important lessons learned that have served as a basis to the strategic approach developed in this Regional Strategy.

Key lessons learned in implementing the HPAI programme	
Lesson learned	Strategic implication
The most effective way to reduce the overall risk of human exposure to H5N1 virus is to reduce HPAI incidence in entrenched areas.	Areas in which HPAI persists must be a major focus of the Regional Strategy.
Efforts directed to HPAI and other EIDs for the global public good do not always match national priorities.	<ol style="list-style-type: none"> <li>1. Advocate for support of global public good objectives at the national and regional levels.</li> <li>2. Seek engagement by also supporting national priorities for preparedness, prevention and control of HPAI and other EIDs.</li> </ol>
Attempts at controlling HPAI by culling, movement control and decontamination in areas of high HPAI incidence have had limited success.	<ol style="list-style-type: none"> <li>1. Improved outbreak response needs to be promoted.</li> <li>2. Sustainable reduction in HPAI incidence in entrenched areas requires more attention to risk-reduction measures.</li> </ol>
There has been limited attention given to understanding key risk factors in specific situations.	Understanding HPAI transmission risk requires analysis of epidemiological, socio-economic and ecological factors and their inter-relations.
It has been difficult to address veterinary capacity strengthening in the emergency, short cycle funding mode of support.	<ol style="list-style-type: none"> <li>1. Advocate to donors for longer-term support directed more broadly to capacity building for EID prevention and control.</li> <li>2. Identify needs and provide support for building national and regional veterinary capacity.</li> </ol>
Contiguous countries or parts of countries can be identified that possess multiple high-risk factors for HPAI transmission and maintenance.	Consider sub-regional approaches in clusters of HPAI entrenched infection or high-risk situations.
The small-scale commercial production sector represents a particular risk for HPAI transmission.	Support HPAI prevention and control approaches that address the sectors and classes of poultry production that represent the greatest risks, including duck production.
Sustainability of regional approaches requires institutionalized mechanisms.	Assist in strengthening and fully engage regional organizations.
Strong regional programme leadership requires greater technical and operational resources.	Strengthen regional ECTAD capacity.

## Annex 2: Current and planned project implementation

### 2.1 Projects currently being implemented in the region

Project code and title	Countries	Duration	Components	Relationship to strategy objectives/ outcomes
OSRO/RAS/604/USA Immediate technical assistance to strengthen emergency preparedness for HPAI	China and Southeast Asia (ex. Philippines)	2006-2010	<ul style="list-style-type: none"> <li>Strengthened cross-sectoral coordination</li> <li>Strengthened epidemiology capacity</li> <li>Strengthened coordination of regional networks</li> <li>Cross-border risk assessment</li> </ul>	1.4; 2.5; 3.1; 3.2; 6.1
GCP/RAS/221/JPN Strengthening coordination network for diagnosis and surveillance for the control and prevention of HPAI and other TADs in Southeast Asia	Southeast Asia	2006-2011	<ul style="list-style-type: none"> <li>Harmonized approaches to early outbreak response</li> <li>Sustainable networks for information sharing</li> <li>Enhanced monitoring of disease control</li> <li>Greater understanding of regional HPAI epidemiology</li> <li>Improved training for HPAI prevention and control</li> <li>Increased public awareness for HPAI reporting</li> </ul>	1.4; 2.5; 2.6; 3.1; 6.1
OSRO/RAS/601/ASB Strengthening regional capacity to control and prevent avian influenza in Asia and the Pacific	Regional Asia and the Pacific	2009-2010	<ul style="list-style-type: none"> <li>Regional capacity building</li> <li>Regional coordination</li> <li>Avian influenza response facility</li> </ul>	2.1; 2.4; 3.1; 3.2
OSRO/INT/805/USA Developing and maintaining public-private partnerships for the prevention and control of HPAI H5N1	Bangladesh, Indonesia	2009-2010	<ul style="list-style-type: none"> <li>Public-private coordination for HPAI prevention and control</li> <li>Improved veterinary service capacity</li> <li>Develop a platform for public-private partnerships</li> </ul>	2.3; 4.3
OSRO/RAS/602/JPN Strengthening the control and prevention of HPAI	Indonesia (Bali)	2009	<ul style="list-style-type: none"> <li>Border surveillance to assess HPAI risks</li> <li>Surveillance to determine HPAI incidence</li> <li>Develop HPAI control framework</li> <li>Market network-based HPAI control plan</li> </ul>	1.2; 1.3;
TCP/RAS/3211 Emergency assistance for surveillance of novel influenza A subtype H1N1 viruses in pig and poultry production sectors in high-risk Southeast Asian countries	Regional Asia and the Pacific	2009-2010	<ul style="list-style-type: none"> <li>Surveillance and monitoring for H1N1 viruses</li> <li>Information on influenza viruses in pigs and poultry</li> <li>Assess swine production and trade systems</li> <li>Understanding H1N1 epidemiology</li> <li>Promotion of good biosecurity practices</li> <li>Coordination response plans at sub-regional level</li> <li>Timely regional information exchange</li> <li>Sharing of influenza isolates</li> <li>Community and swine industry awareness</li> </ul>	1.3; 3.2; 4.1; 4.5; 4.6; 6.1; 6.3

## 2.1 Projects currently being implemented in the region

Project code and title	Countries	Duration	Components	Relationship to strategy objectives/ outcomes
OSRO/RAS/601/ASB Immediate technical assistance to strengthen emergency preparedness for HPAI in Bangladesh	Bangladesh	2006-2009	<ul style="list-style-type: none"> <li>• Surveillance, quarantine and response</li> <li>• Virus elimination at source and personnel protection</li> <li>• Awareness raising and communication</li> </ul>	1.3
OSRO/RAS/605/USA Immediate technical assistance to strengthen emergency preparedness for HPAI in Bangladesh	Bangladesh	2006-2009	<ul style="list-style-type: none"> <li>• Strengthened national capacity</li> <li>• Increased biosecurity of poultry production</li> </ul>	1.2; 2.3
OSRO/BGD/905/USA Immediate technical assistance to strengthen emergency preparedness for HPAI in Bangladesh	Bangladesh	2010	<ul style="list-style-type: none"> <li>• Improved management of HPAI prevention and control</li> <li>• Improved biosecurity of poultry production</li> <li>• Active HPAI surveillance</li> </ul>	1.2; 2.3
OSRO/RAS/604/USA Immediate technical assistance to strengthen emergency preparedness for HPAI in Cambodia	Cambodia	2006-2010	<ul style="list-style-type: none"> <li>• Strengthened cross-sectoral coordination</li> <li>• Strengthened veterinary capacity</li> <li>• Enhanced biosecurity in production and markets</li> <li>• Improved public awareness</li> <li>• Improved cross-border risk-management</li> </ul>	1.2; 3.2; 4.3
OSRO/RAS/604/USA Immediate technical assistance to strengthen emergency preparedness for HPAI in China	China	2006-2010	<ul style="list-style-type: none"> <li>• Strengthened cross-sectoral coordination</li> <li>• Strengthened HPAI surveillance</li> <li>• Improved knowledge of HPAI epidemiology</li> <li>• Improved HPAI control strategy</li> </ul>	1.2; 3.2; 2.3; 6.1
OSRO/RAS/605/USA Elucidating international migration routes of priority waterbird species in India and the Central Asian Flyway to evaluate their potential to transmit HPAI	India	2006-2009	<ul style="list-style-type: none"> <li>• Wild bird migration mapped &amp; ecological assessment</li> <li>• Avian influenza virus prevalence in wild birds</li> <li>• Capacity building of wildlife officials</li> </ul>	6.2
OSRO/IND/802/USA Immediate technical assistance to strengthen emergency preparedness for HPAI in India	India	2009-2012	<ul style="list-style-type: none"> <li>• Improved HPAI epidemiological capacity</li> <li>• Risk based surveillance established</li> </ul>	1.2; 2.3

## 2.1 Projects currently being implemented in the region

Project code and title	Countries	Duration	Components	Relationship to strategy objectives/ outcomes
OSRO/RAS/701/USA Strengthening cross-border activities among Bangladesh, India, Nepal and Myanmar to control possible cross-border spread of HPAI	Bangladesh, Nepal, India, Myanmar	2007-2010	<ul style="list-style-type: none"> <li>• Risk mapping of cross-border movement</li> <li>• Increased emergency response capacity</li> <li>• Increased quarantine capacity</li> </ul>	1.2; 2.3
OSRO/INS/604/USA Reinforcement and Expansion of the Avian Influenza Participatory Disease Surveillance and Response (PDSR) Program in Indonesia	Indonesia	2009-2010	<ul style="list-style-type: none"> <li>• Surveillance, prevention and control of HPAI in village and commercial poultry, and along market chain</li> <li>• Coordinated and enhanced management of HPAI control</li> </ul>	1.2; 2.3
OSRO/INS/703/USA Monitoring AI virus variants in Indonesian poultry and defining an effective and sustainable vaccination strategy	Indonesia	2007-2009	<ul style="list-style-type: none"> <li>• Antigenic characterization and vaccination challenge testing of H5N1 field isolates</li> <li>• Recommendations for vaccination strategy</li> </ul>	1.2; 6.3
OSRO/INS/701/AUL Assistance through FAO for the control of avian influenza in poultry in Indonesia	Indonesia	2007-2010	<ul style="list-style-type: none"> <li>• Provision of technical policy &amp; advice</li> <li>• HPAI surveillance and outbreak response</li> <li>• Vaccination</li> </ul>	1.2; 2.3
OSRO/RAS/604/USA Immediate technical assistance to strengthen emergency preparedness for HPAI in the Lao People's Democratic Republic	Lao People's Democratic Republic	2006-2010	<ul style="list-style-type: none"> <li>• Avian influenza control policy development</li> <li>• Surveillance and disease response capability</li> <li>• Priority research</li> <li>• Improved adoption of biosecurity</li> <li>• Public awareness campaign</li> </ul>	1.2; 2.3; 6.1
OSRO/MYA/601/AUL Prevention and control of AI and human influenza in Myanmar	Myanmar	2006-2011	<ul style="list-style-type: none"> <li>• Strengthen capacity and quality of veterinary services</li> <li>• Strengthen FAO coordination role</li> <li>• Rehabilitation of affected producers</li> </ul>	2.3; 3.2
OSRO/MYA/702/USA – Immediate technical assistance to strengthen emergency preparedness for HPAI in Myanmar	Myanmar	2007-2010	<ul style="list-style-type: none"> <li>• Strengthened cross-sectoral coordination</li> <li>• Strengthened surveillance &amp; outbreak containment</li> </ul>	2.3; 3.2



## 2.1 Projects currently being implemented in the region

Project code and title	Countries	Duration	Components	Relationship to strategy objectives/ outcomes
OSRO/MYA/801/WBK Improvement of prevention, control and eradication of HPAI in Myanmar	Myanmar	2008-2011	<ul style="list-style-type: none"> <li>Strengthened veterinary services</li> <li>Improved outbreak containment</li> <li>Improved biosecurity</li> </ul>	1.2; 2.3
OSRO/RAS/605/USA Immediate technical assistance to strengthen emergency preparedness for HPAI in Nepal	Nepal	2006-2010	<ul style="list-style-type: none"> <li>Updating of national strategy</li> <li>Improved information sharing between stakeholders</li> </ul>	1.2; 4.3
TCP/PHI/3204 Emergency assistance for early detection, response and control of Ebola-Reston virus in swine and other swine diseases in the Philippines	Philippines	2009-2010	<ul style="list-style-type: none"> <li>Capacity development, including Ebola-Reston virus</li> <li>Development of public-private partnerships</li> <li>Enhancing food safety messages</li> <li>Wildlife research studies</li> </ul>	2.3; 4.3; 6.1
OSRO/TIM/601/USA Communication and public awareness activities to support the prevention and control of AI in Timor Leste	Timor Leste	2006-2010	<ul style="list-style-type: none"> <li>Enhance veterinary capacity</li> <li>Safeguard human health and livelihoods</li> </ul>	2.3; 3.2
OSRO/TIM/701/AUL Biosecurity Strengthening Program (BSP) for Timor Leste	Timor Leste	2007-2010	<ul style="list-style-type: none"> <li>Awareness raising and education</li> <li>Veterinary capacity development including laboratory</li> <li>Animal health legislation enforcement</li> </ul>	1.3; 2.3
OSRO/VIE/701/UNJ Strengthening the management of public health emergencies in Viet Nam – with focus on the prevention and control of diseases of epidemic potential including HPAI, Phase II	Viet Nam	2007-2010	<ul style="list-style-type: none"> <li>Improving HPAI control strategy</li> <li>Improving animal health legislation &amp; regulations</li> <li>Training of epidemiologists; field staff</li> <li>Improving outbreak response &amp; reporting</li> <li>Building capacity of veterinary services</li> <li>Long-term biosecurity and restructuring initiatives</li> </ul>	1.2; 2.3; 4.2
OSRO/RAS/604/USA Immediate technical assistance to strengthen emergency preparedness for HPAI in Viet Nam, Phase III	Viet Nam	2006-2010	<ul style="list-style-type: none"> <li>Improving HPAI control strategy</li> <li>Coordination with partners</li> <li>Procurement of priority supplies</li> <li>Improved outbreak response and biosecurity</li> <li>Enhanced communication capacity</li> </ul>	1.2; 2.6; 3.2; 4.3
OSRO/VIE/801/USA Gathering Evidence for a Transitional Strategy (GETS) for HPAI H5N1 Vaccination in Viet Nam	Viet Nam	2008-2011	<ul style="list-style-type: none"> <li>Compare efficacy of different vaccination strategies</li> <li>Compare cost-effectiveness of vaccination strategies</li> <li>Define risk factors for HPAI outbreaks</li> <li>Compare sociological factors for vaccination</li> <li>Undertake policy analysis for HPAI vaccination</li> </ul>	1.2; 6.1

## 2.2 Projects currently being planned in the region

Project code and title	Countries	Duration	Components	Relationship to strategy objectives/ outcomes
OSRO/RAS/801/EC Regional cooperation programme on highly pathogenic and emerging diseases (HPED) in South and Southeast Asia	Regional Asia	2009-2013	<ul style="list-style-type: none"> <li>Enhanced capacity of ASEAN and SAARC to prevent and control HPEDs</li> </ul>	2.2



A crowded poultry truck

Credit: FAO/C. Ahlers

## Annex 3: Indicators for assessment of progress against planned outcomes

Planned outcomes	Indicator
<b>Objective 1 – Technical advice</b>	
1.1 Regional organizations have HPAI and other EID control plans consistent with FAO recommendations.	Regional control plans are current and reflect FAO recommendations.
1.2 Recommendations are made through ECTAD country teams to national governments, focusing on long-term risk-reduction for those countries within the cluster groups, for national plans for HPAI control that embrace the key strategic issues identified in this Regional Strategy.	FAO national ECTAD control strategies for the high-risk cluster countries are current and reflect sound, feasible and pro-poor approaches.
1.3 National governments have technically sound plans for preparedness, prevention and control of specific EIDs of international, regional or national priority.	National governments concur with FAO on international and regional priorities for EID prevention and control.
1.4 National governments and regional partners have technically appropriate proposals for facilitating the development of harmonized approaches between countries to HPAI prevention and control, particularly within the identified high-risk clusters.	National veterinary services make progress in harmonizing prevention and control strategies, especially those directed at regulating cross-border trade.
1.5 ECTAD-RAP contributes to regional initiatives to inform and influence regulatory authorities and communities on risk-avoidance behaviour for HPAI prevention and control.	Regional recommendations for behaviour change communication are documented.
<b>Objective 2 – Capacity building</b>	
2.1 The performance of ECTAD-RAP is improved with respect to providing backstopping technical support to ECTAD country teams, efficiency of logistic support and effective oversight of project design, monitoring and evaluation.	1. FAO country plans demonstrate improved technical harmonization within the region. 2. Country ECTAD Units appreciate stronger support from regional ECTAD in advocacy in-country.
2.2 In collaboration with OIE, ASEAN, SAARC and SPC, three Regional Support Units are established in the sub-regions of Southeast Asia, South Asia and the Pacific.	The Regional Support Units are established and at least partly funded by the regional organizations.
2.3 ECTAD-RAP assists national governments to obtain donor support for meeting veterinary service strengthening needs, including those identified through application of the OIE PVS tool.	National veterinary services indicate that their capacity building support needs are being addressed.
2.4 FAO technical support for animal health emergencies in the region is provided by ECTAD-RAP, in conjunction with the FCC and including national expertise.	FCC missions include ECTAD-RAP personnel and national experts from the region.

Planned outcomes	Indicator
<b>Objective 2 – Capacity building</b>	
2.5 Regional technical training priorities are identified and facilitated, including epidemiology training and training to develop core skills and leadership in strategic communication.	<ol style="list-style-type: none"> <li>1. The Field Epidemiology Training Program for Veterinarians (FETPV) continues.</li> <li>2. The Communication Capacity Development &amp; Leadership Programme is established.</li> </ol>
2.6 ECTAD-RAP meets the needs of ECTAD country teams and of key regional institutions for support in resource mobilization and project design, formulation and monitoring.	<ol style="list-style-type: none"> <li>1. Progressive reduction in gaps in personnel availability.</li> <li>2. Improved performance in purchasing.</li> <li>3. Reduced delays in project formulation and approvals.</li> </ol>
<b>Objective 3 – Coordination</b>	
3.1 Regional organizations progressively assume responsibility for management of regional networks, with initially an enhanced support and then a gradual reduction in support from ECTAD-RAP.	FAO ECTAD funding for networks is at first increased (1-2 years) and subsequent withdrawn as they become supported by regional organizations.
3.2 Animal health and cross-sectoral initiatives are effectively coordinated at the regional level, including those of other UN agencies, OIE, World Bank and the public health sector.	A clear cross-sectoral and multi-agency programme is documented and articulated, with general consensus among the agencies.
<b>Objective 4 – Advocacy</b>	
4.1 Strong national political support enhances the timeliness and effectiveness of project design and implementation for EID prevention and control.	<ol style="list-style-type: none"> <li>1. Better resourced veterinary services.</li> <li>2. National governments commit more funds to EID programmes.</li> </ol>
4.2 National governments enact and apply appropriate legislation and recommendations to support EID preparedness, prevention and control.	National legislation is enacted and appropriate regulations are in place.
4.3 Improved national collaboration is demonstrated between regulatory authorities and commercial industry for HPAI disease control, including formal agreements, joint activities and exchange of personnel and other inputs between public and private sectors.	Public-private partnerships are effective in achieving consensus between government and industry on HPAI interventions, especially long-term risk-reduction measures.
4.4 Regional organizations, in particular ASEAN, SAARC and SPC, continue to assume responsibility for leadership of EID prevention and control initiatives in their sub-regions.	FAO/OIE/WHO are able to take a subsidiary role in coordinating regional EID activities.
4.5 Donors accept the need for a long-term approach to HPAI control in entrenched clusters, including longer funding cycles, building national capacities and linking HPAI and other EID prevention and control to food security and supporting livelihoods.	Donors invite and accept proposals for prevention and control of HPAI & other EIDs with projected funding cycles of 5 years and over.



Planned outcomes	Indicator
<b>Objective 4 – Advocacy</b>	
4.6 ECTAD-RAP successfully negotiates with donors for support for EID prevention and control interventions that meet donor and recipient government priorities.	1. Reduced delays in project approvals. 2. Increased matching funding from government for assistance projects.
4.7 Information sharing through existing FAO systems and through publication of programme results increases partner commitment to continuing support for EID prevention and control.	1. Global disease information, including GLEWS, is better informed from the Asia/Pacific Region. 2. Donors achieve consensus with implementing partners on priorities for support.
<b>Objective 5 – Collaboration</b>	
5.1 Meetings conducted between national government representatives, facilitated by regional partners and supported by ECTAD-RAP, contribute to effective management of cross-border risks in relation to HPAI transmission.	Consensus is achieved on identification of, and collaborative approaches to, addressing cross-border HPAI transmission.
5.2 Sharing of HPAI field specimens between countries and with international reference laboratories enhances molecular epidemiological analysis for virus maintenance, spread and temporal changes.	Progressive increase in the rate of specimen submission to international reference laboratories.
5.3 Livestock disease control policy and legislation is harmonized between countries, in particular as it relates to transboundary spread within HPAI clusters or other epidemiologically or ecologically defined zones.	Regional organizations or other sub-regional country clusters agree on key aspects of disease control legislation.
5.4 Forums for planning and information exchange and other initiatives for promoting information-sharing at the technical level between countries are supported, with the objective of developing self-sustaining mechanisms managed by regional organizations in collaboration with national governments.	National technical personnel have the knowledge to participate effectively in regional strategic development, led by regional organizations.
<b>Objective 6 – Research</b>	
6.1 Regional initiatives are adopted for multidisciplinary regionally harmonized research comprising epidemiology, molecular epidemiology, socio-economics and related studies to identify risk factors and understand disease dynamics.	Results of regional research are published or otherwise documented.
6.2 Collaborative international research to further understand the role of migratory birds in the maintenance and spread of H5N1 virus are supported.	Improved understanding of the role of wild birds in the maintenance and transmission of H5N1 virus.
6.3 Improved H5N1 sample collection and submission to international reference laboratories through the OFFLU network improves knowledge of temporal changes and selection of appropriate vaccine strains for HPAI.	1. Molecular epidemiology informs HPAI strategy development. 2. Better matching of HPAI vaccines to field viruses.

## Annex 4: References

1. OIE/FAO. Ensuring Good Governance to Address Emerging and Re-emerging Disease Threats – Supporting the veterinary services of developing countries to comply with OIE international standards on quality. September 2007.
2. Project document – Strengthening Regional Capacity to Control and Prevent Avian Influenza in Asia and the Pacific. OSRO/RAS/601/ASB. July 2009.
3. A Strategic Framework for HPAI Prevention and Control in Southeast Asia. ECTAD Bangkok. May, 2006.
4. The Global Strategy for Prevention and Control of H5N1 Highly Pathogenic Avian Influenza. October 2008.
5. Contributing to One World, One Health. A strategic framework for reducing risks of infectious diseases in the animal-human-ecosystems interface. Produced by FAO, OIE, WHO, UNSIC, UNICEF and the World Bank. October 2008.
6. Concept note - Integrated health promotion and capacity building in relation to OWOH concepts in Asia and the Pacific. July 2009 (draft).
7. A review of the preparedness for and the implementation of HPAI control in Southeast Asia. A report prepared for FAO and Asian Development Bank by Dr. Andrew Turner. September 2008.
8. Report of the Third Annual Regional Meeting of Regional ECTAD, FAO RAP Pattaya, Thailand. February 2009.
9. ASEAN Regional Strategy for the Progressive Control and Eradication of HPAI (2008-2010).
10. FAO Animal Health Service. Planning Session, December 2008. Summary of Conclusions.
11. The Global Framework for the Progressive Control of Transboundary Animal Diseases (GF-TADs). OIE and FAO. May 2004.
12. FAO Medium Term Plan 2010-2013 and Programme of Work and Budget 2010-11. July 2009 (draft)  
*Strategic objective I – improved preparedness for, and effective response to, food and agriculture threats and emergencies*  
*Strategic objective B – increased sustainable livestock production*
13. Communicating OneWorldOneHealth:RAP-ECTAD Regional Strategic Framework for Communication on Transboundary Animal Diseases and Infectious Diseases in Asia and the Pacific. July 2009 (draft).
14. FAO RAP Regional Priority Framework (2010-2020). July 2009 (draft).



Young speakers at a community event for raising Avian Influenza awareness in Cambodia

Credit: FAO/Avian Influenza Team Cambodia



## **FOOD CHAIN CRISIS** Management Framework

The **Food Chain Crisis Management Framework (FCC)** is the instrument of the Food and Agriculture Organization of the United Nations (FAO) for action in support of member countries in their effort to address the risks to the human food chain, at all stages from production to consumption.

The **FAO Regional Strategy for Highly Pathogenic Avian Influenza and other Emerging Infectious Diseases of Animals in Asia and the Pacific** will be implemented through the FCC.

[www.fao.org/foodchain](http://www.fao.org/foodchain)