

Rapid Missions Update

September 2008 – September 2010



FAO/D.Hadrill

Nepal responds to its first outbreak of HPAI.

The Crisis Management Centre – Animal Health (CMC-AH) is a facility of the Food and Agriculture Organization of the United Nations (FAO) and the World Organisation for Animal Health (OIE) for animal disease emergency response. Combining FAO's expertise with that of OIE, the World Health Organization (WHO) and other partners, the CMC-AH provides technical and operational assistance to help affected governments assess epidemiologic situations on the ground, diagnose outbreaks of transboundary animal diseases (TADs) or other emerging disease threats and set-up immediate measures to help prevent or stop disease spread.

From September 2008 to September 2010, the Centre deployed 18 rapid response missions. These missions assisted 16 countries in their efforts to assess and rapidly respond to new or critical epidemiologic situations or outbreaks of various TADs, including African swine fever (ASF), Ebola Reston virus (ERV), Highly Pathogenic Avian Influenza (HPAI), pandemic (H1N1) 2009 virus, porcine teschovirus (PTV) and rabies.

CMC-AH missions also provided key support to governments investigating and responding to disease crises related to unknown or multiple diseases in complex national and regional contexts.

HIGHLIGHTS

- The CMC-AH supports global efforts to respond to the pandemic (H1N1) 2009 influenza virus by deploying technical experts to the Americas to help assess epidemiologic aspects of the situation and increase laboratory capacity to rapidly diagnose the new strain.
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- With unexplained cattle deaths suddenly on the rise in West Africa, the CMC-AH assists with disease investigation activities to identify likely causes and guide response efforts.
[see page 6](#)
- In Southeast Asia the first-ever diagnosis of ERV in swine in a production animal going into the food chain calls for rapid support from the largest multi-agency CMC-AH mission to date.
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Togo

Highly Pathogenic Avian Influenza
18–27 September 2008

The Government of the Togolese Republic began receiving reports of suspect bird mortalities on 9 September 2008. When rapid tests performed by the veterinary services proved positive for HPAI, the Government began immediate control measures (i.e. depopulation, cleaning, disinfection and isolation). Official laboratory tests performed by the OIE/FAO reference laboratory in Padua confirmed the presence of HPAI on 17 September 2008, at which time the Government requested FAO technical support.

With CMC-AH support, FAO deployed a mission from the FAO Regional Animal Health Centre (RAHC) in Bamako to Togo from 18 to 27 September 2008. Comprised of two veterinary epidemiologists, a socio-economist and a communication specialist, the team observed government control activities



Togolese veterinary services

Example of biosecurity measures applied on site.

and provided technical assistance in support of depopulation and compensation measures. Stamping out of poultry took place and owners were compensated. The mission also provided the veterinary authorities with recommendations for appropriate follow up measures and next steps.

Lao People's Democratic Republic

Highly Pathogenic Avian Influenza
4–13 October 2008

After no reported HPAI activity since March 2008, an outbreak in ducklings was detected on 27 August 2008.

Located in a small duck farm in the village of Nambak, Luang Prabang, the ducklings had been purchased from a neighbouring province in the northernmost part of the country. The Government, in collaboration with in-country FAO expertise, began assessment and surveillance activities within a five-kilometre radius of the suspected farm of origin. On 1 September 2008 a second outbreak with very low daily mortality was reported, raising concern of the virus circulating through the area's duck farming system.

Working jointly with FAO regional and local expertise and in support of government efforts to assess and respond to the situation, the CMC-AH sent a veterinary epidemiologist from 4 to 13 October 2008 to:

- assess the rapidly evolving duck farming system in the north;
- evaluate the risk of HPAI spread by studying the main duck distribution markets; and
- provide the Government with policy and technical recommendations to help control and eradicate disease outbreaks.



FAO/D.Castellan

Preparation of locally sourced eggs for sale.



FAO/D.Castellan

Sign outside a veterinary clinic offering animal health services to local farmers.

Côte d'Ivoire

Disease investigation
4–18 November 2008

Challenged by various stresses, the north of Côte d'Ivoire has also experienced high mortality in ruminants since 2004. When cattle deaths intensified due to an unknown cause during the 2008 rainy season, the Government requested FAO assistance to help investigate the disease situation.

The CMC-AH responded by fielding two epidemiologists – one a national with in-depth knowledge of northern Côte d'Ivoire – to investigate the mysterious cattle mortalities. Benefiting from the national consultant working with the Ivorian veterinary services, the CMC-AH team visited suspect areas and collected samples for diagnostic purposes. Mission findings suggested that contagious bovine pleuropneumonia (CBPP), cowdriosis and several other diseases were circulating in the area. In order to help prevent their possible spread, the mission team recommended the Government:



FAO/B.Seck

Cattle are an important resource for smallholder farmers.

- strengthen the capacities of its local and regional veterinary services;
- increase active and passive surveillance activities;
- enhance the diagnostic capacities of laboratory networks; and
- work with the *Centre Ivoirien de Recherches Economiques et Sociales* to disseminate appropriate information to animal workers and the public to enhance disease recognition and awareness and promote appropriate response activities.

Indonesia

Rabies
12–23 December 2008

Indonesia confirmed human and animal cases of rabies on the island of Bali in late November 2008. The zoonotic disease posed a serious threat to public health due to the large numbers of stray dogs on the island. In response to the request of the Indonesian authorities, the CMC-AH deployed a team to assist with epidemiologic investigation, control strategies and resource mobilization for the rabies threat.

The CMC-AH mission took advantage of the resources and systems already put in place by FAO's HPAI programme (in particular the participatory disease surveillance and response [PDSR] networks), working to assess the epidemiologic situation and develop control strategies for the new rabies threat.

The CMC-AH mission worked with local and national veterinary authorities to:

- identify the likely source of the introduction of the virus on the island;
- formulate a mass vaccination campaign plan, supported by information and communication activities and funded by a CMC-AH Emergency Funding Package;
- draft a rabies eradication operational plan; and



FAO/E.Christy

Dogs are vaccinated by the Balinese veterinary services.

- develop a twelve-month, USD 800 000 Bali rabies eradication project to be implemented by FAO and funded by the Australian Agency for International Development.

Upon the recommendation of the mission and with resources secured by the CMC-AH, the veterinary authorities implemented an accelerated, mass vaccination campaign toward the end of the mission on 20 to 21 December 2008. Through the campaign, the authorities targeted 15 000 dogs in two affected subdistricts and posted vaccinators in all targeted communities. FAO PDSR teams were posted at the village with the largest target dog population where human cases had been reported.

Philippines

Ebola Reston virus

9–16 January 2009 and 24 April – 8 May 2009

In November 2008 the Centers for Disease Control and Prevention (CDC) confirmed the first known occurrence of ERV in pigs when testing swine samples in connection with outbreaks of porcine reproductive and respiratory syndrome (PRRS) in the Philippines. ERV was known previously to kill monkeys but only cause antibody production in humans. The unknown epidemiology of ERV in swine and implications of co-infection with other diseases were causes for concern.

In light of swine deaths apparently due to PRRS and possible animal and public health risks posed by ERV, the Government enacted quarantine measures, halted swine exports and requested assistance in December 2008. In January 2009, FAO, OIE and WHO deployed a mission facilitated by the CMC-AH to:

- conduct animal and human health risk assessments;
- assist with sampling;
- support laboratory testing;
- advise on risk communication; and
- provide control recommendations.



WHO/B. Pavlin

Epidemiologists working at a suspect commercial farm.

The large, multidisciplinary team coordinated activities with the Philippine authorities, CDC, the United States Department of Agriculture (USDA) and other partners. The mission laid the groundwork for new studies and a follow-up CMC-AH mission to better understand ERV and its ramifications. Mission inputs gave rise to an FAO Technical Cooperation Programme (TCP) project to improve surveillance, diagnostic capacity and overall swine health.

The CMC-AH follow-up mission from 24 April to 8 May 2009 strengthened the Department of Agriculture's capacity for: i) surveillance for ERV infection in animals; and ii) recognition and control of transboundary and emerging swine diseases.

Nepal

Highly Pathogenic Avian Influenza

3–17 February 2009

Nepal's first HPAI outbreak occurred in January 2009. As indicated by CMC-AH preparedness missions in early 2008, the risk of HPAI introduction had been high due to a variety of factors, including porous borders with countries experiencing HPAI outbreaks. Following guidance provided by previous CMC-AH missions and the ECTAD Nepal team, the Government declared a state of emergency on 16 January 2009 and quickly initiated response activities. The authorities requested supplementary assistance from FAO on 28 January 2009 to assess the epidemiologic situation and help strengthen the Government's response capacity for future events.

The CMC-AH mission concluded the authorities had controlled the outbreak with notable speed and efficiency due to effective planning and in part to the implementation of previous CMC-AH recommendations. The team determined Nepal was likely to struggle with future, multiple outbreaks or with disease spread in large commercial farms. Therefore, the team recommended improvements in:



FAO/D. Hadriil

Laboratory sampling conducted in-country for HPAI.

- disease investigation;
- control and cross-border issues;
- laboratory support;
- communication activities; and
- funding and resource mobilization.

The CMC-AH distributed a revised sampling protocol to laboratory personnel and formulated an Emergency Funding Package to cover immediate gaps for the outbreak response.

Togo

African swine fever
10–24 February 2009

Present in Togo since 1997, ASF has gradually become endemic in many parts of the country. Togolese authorities have strived to contain the effects of ASF in particular and TADs in general despite a lack of resources over the past decade resulting in strained capacities.

When authorities suspected new outbreaks of ASF in previously unaffected areas from November 2008 to January 2009, the situation caused significant concern not only for Togo, but also for neighbouring countries in the region. The CMC-AH deployed a mission in February 2009 to help Togo prepare:

- an emergency action plan and funding package to respond to the suspected outbreaks in the newly-affected area;
- a six-month action plan to address ASF at the national level; and
- a plan for the development of a regional ASF strategy including Benin, Burkina Faso, Côte d'Ivoire, Ghana and Togo.



FAO/JC. Bebay

A local trader prepares to bring live pigs to market.

The CMC-AH Emergency Funding Package of USD 10 000 covered: i) a complete swine census in the affected prefecture; ii) the development of emergency communication products (i.e. flyers and radio spots) and awareness-raising activities for local authorities and producers in the affected area; and iii) capacity building for central and field veterinary staff to increase disease awareness and target surveillance activities. Implemented under the guidance of the CMC-AH mission, which included one of world's foremost experts on ASF, these activities included the production and dissemination of informational flyers and broadcast radio spots to communicate the disease risk and recommended mitigation activities to key audiences, including smallholder farmers, transporters, traders and market sellers. The CMC-AH team worked in close collaboration with government authorities to ensure wide dissemination of recommendations, following up with the design and implementation of the below-mentioned regional project for ASF prevention and control.

The CMC-AH also helped foster cross-border dialogue with Ghana and Benin during the mission.



FAO/JE. Christy

A farmer displays a photograph of himself and his pig, which had died because of ASF infection.



FAO/JE. Christy

A roadside eatery offers both production animals and wild game for consumption.

West Africa

African swine fever
28 April – 27 June 2009

Following the CMC-AH ASF mission to Togo in February 2009 and the clear need to further evaluate the overall epidemiologic context in Togo and surrounding countries (i.e. Benin, Burkina Faso, Côte d'Ivoire and Ghana), on 28 April 2009 the CMC-AH deployed an ASF expert to the region for a two-month period in collaboration with FAO's Emergency Prevention System for Transboundary Animal and Plant Pests and Diseases (EMPRES) and the RAHC in Bamako.

For each of the five countries, information was collected on ASF occurrence and distribution, pig production, pig and pig meat marketing, surveillance, diagnostic and laboratory capacities, extension service and farmer support capacities, legislation and regulation pertaining to ASF prevention and control. The mission proposed a regional strategy to control ASF with the potential to diagnose and improve pig production in enhanced biosecurity conditions.



FAO/C. Bebay

Wild boars represent a significant reservoir for ASF.

Mexico

Pandemic (H1N1) 2009 influenza virus
29 April – 20 May 2009

Since 24 April 2009 when WHO first reported cases of human infection, countries across the globe have continued to experience human cases of the pandemic (H1N1) 2009 influenza virus. The CMC-AH deployed a mission to Mexico from 29 April to 20 May 2009 to support the Government in its efforts to assess the epidemiologic situation in pigs and strengthen diagnostic capacity.



FAO/M. Kim

Experts review the latest disease information.

Through the CMC-AH mission, experts from FAO, OIE, CDC, USDA and the *Organismo Internacional Regional de Sanidad Agropecuaria*, supported Mexican veterinary services by: i) providing technical advice regarding any possible recent or new disease events in pigs; and ii) building national capacities in surveillance, epidemiologic investigation and laboratory diagnosis. CMC-AH also coordinated with two experts from WHO's Pan American Health Organization on the veterinary public health side and the Inter-American Institute for Cooperation on Agriculture.

Mission findings and those of scientific partners showed no evidence of a threat to the food chain. However, given the lack of knowledge regarding the new virus strain, joint FAO and OIE communiqués urged national authorities and farmers to monitor pig farms carefully and investigate any influenza-like signs in domestic animals.

FAO follow-up efforts included the approval of regional TCP projects for Central America, South America and Southeast Asian Nations aimed at supporting government efforts to improve disease surveillance in light of new and ongoing risks associated with influenza viruses.

Haiti

Porcine teschovirus
2–15 June 2009

In February 2009, various backyard pigs in Haiti showed nervous signs and paralysis leading to mortality. In March 2009, laboratory testing by USDA's Foreign Animal Disease Diagnostic Laboratory (FADDL) confirmed that PTV serotype 1 was responsible. In April 2009, the Government began public and cross-border communication through the Caribbean Animal Health network.

The spread of the disease posed severe socio-economic implications for the island in general and Haiti in particular, which is already a country with one of the most vulnerable populations in the Western hemisphere. Smallholder farmers – for whom pigs represent an important source of food, revenue and financial security – were the main group affected. The CMC-AH responded to a request for assistance from Haiti, organizing a mission composed of a veterinarian, a microbiologist and pathologist from the *Friedrich-Loeffler-Institut* and an operations expert to help the Government respond to the crisis. The CMC-AH also engaged with FADDL counterparts and a PTV vaccine expert from the University of Ljubljana, Slovenia for remote support.

Upon mission conclusion, the team provided recommendations focusing on: i) regional information sharing; ii) vaccination campaign development and implementation; iii) capacity building for veterinary services staff; iv) strengthening of centralized surveillance activities (e.g. data consolidation and analysis). FAO stressed that a vaccine would need to be effective against the circulating strain of PTV to ensure a high level of protection. The CMC-AH also launched donor outreach activities to assist Haiti in securing funding for its control activities, including the formulation of a TCP project.



FAO/P. Ankers

A crowd gathers around a pig suffering from PTV.



FAO/E. Moncada

A pig demonstrates behavior typical of PTV infection.



FAO/E. Moncada

Backyard pigs during a feeding on a smallholder farm.

Fiji

Brucellosis

22 July – 3 August 2009

Despite being eradicated in 1989, brucellosis re-emerged in Fiji in June 2009 when abortive cows tested positive. The national authorities reacted quickly to control the infectious disease, which is caused by bacteria and can affect both animals and humans. The Fijian authorities organized a survey to find and eliminate other infected cows as part of an initial response. In light of significant numbers of serologically positive animals, the Ministry of Primary Industries (MPI) requested additional support from FAO in July 2009.

The CMC-AH deployed a brucellosis expert and an epidemiologist on 22 July 2009 to work with MPI, the Ministry of Health and other authorities to: i) investigate brucellosis patterns in outbreak farms; ii) devise a strategy to control the infection; iii) evaluate public health impacts; iv) assist with risk communication; and iv) support diagnosis and detection in animals.

In addition to interviewing farmers, analysing data and reviewing immediate response and control needs, the mission



Veterinary services apply disinfection measures to a truck at a control point.

FAO/P.Pasquali

team engaged with the media, developed public information material and supported government efforts to develop and implement a risk communication strategy.

The team found that, while initial response efforts had been positive, significant gaps existed in national control capacities. As a result FAO urged for additional, external support to strengthen brucellosis control in Fiji.

People's Republic of China

Highly Pathogenic Avian Influenza

8–19 September 2009

In light of human cases of HPAI in January 2009, the CMC-AH offered a rapid mission to support the Government of the People's Republic of China. The authorities enacted response measures and investigated the source of infection. When the Government later generated an official request for additional assistance, FAO organized a mission to support the ongoing HPAI work of the Ministry of Agriculture and ECTAD in-country teams. The CMC-AH assisted with planning and logistics for the mission, which was managed by ECTAD and EMPRES.

The high-level FAO team worked with authorities to:

- deepen the understanding of the epidemiology of HPAI in China;
- advise on methods for strengthening surveillance and control activities;
- assess the quality of the links between field and laboratory diagnosis and advise on how to improve routine laboratory diagnostic capabilities; and
- review the effectiveness of avian influenza control activities, including vaccination.



A duck farm on the shores of Lake Taihu in Jaingsu province.

FAO/14219/P.Johnson

The mission reviewed the progress of HPAI control in China and highlighted a number of key issues. These included the: i) initiation of measures in live bird markets to reduce risks; ii) likelihood that antigenically variant viruses would emerge, undermining the efficacy of current vaccines; iii) continuing problem of adverse and inappropriate publicity stemming from future human cases; iv) need to maximize information flowing from surveillance; and v) need to keep the international community informed in a timely manner concerning the characteristics of future H5N1 isolates.

Democratic Republic of Congo

Multiple animal diseases
11 January – 25 February 2010

A large country with diverse animal resources, the Democratic Republic of Congo has been challenged by over two decades of conflict. Among other impacts, conflict has weakened national veterinary services as confirmed by several OIE assessment missions. The national veterinary services have struggled to cope, especially in light of the upsurge in recent years of disease-related animal mortalities in the east of the country. This contributed to create an animal health crisis precipitated by a range of diseases not being addressed.

The Government requested FAO assistance to respond to a number of threats, including ASF, CBPP, foot-and-mouth disease and *peste des petits ruminants* as well as to zoonoses (i.e. anthrax and rabies). Recognizing the need to help protect national efforts to rebuild the animal production sector, the CMC-AH deployed a team of epidemiology, socio-economic and market chain experts. The mission focused on:

- generating an emergency action plan for responses to specific, critical diseases;
- creating a roadmap toward a comprehensive animal health programme; and
- mobilizing resources to support the above-mentioned initiatives.



FAO/C. Bebay

Goats are displayed for sale at a live market.

Grounding strategy development with field visits to affected areas, the CMC-AH mission worked with the authorities to develop an emergency action plan prioritizing immediate tasks and a strategic road map representing the first step in creating a national animal health programme. The team also designed seven project profiles geared to support the Government's overall efforts to improve animal health and production.



FAO/C. Bebay

Livestock identification, here in the form of tagged ears, is an important part of animal health management.



FAO/C. Bebay

Members of the Congolese veterinary services discuss laboratory resources with CMC-AH experts.

Nepal

Highly Pathogenic Avian Influenza
9–20 March 2010

Nepal has worked with the CMC-AH to enhance HPAI preparedness and response since before the country's first outbreaks in January 2009. Government efforts yielded positive results, which were backed up by CMC-AH rapid

missions and their strategic recommendations. Despite continued work guarding against outbreaks, HPAI resurfaced in Nepal in early 2010.

The Government acted quickly to control the new threat in the country, having worked progressively to increase its prevention and control capacity through FAO and other international assistance. The March 2010 CMC-AH mission provided additional support in assessing the: i) epidemiologic situation in the poultry sector; ii) potential involvement of wild birds; iii) relevance of biosecurity issues; and iv) gaps in funding or opportunities for the redirection of resources. The CMC-AH team, which included a wildlife specialist from FAO's Regional Office for Asia and the Pacific, conducted field visits and engaged with a wide range of government and private stakeholders. Recommendations focused on: i) improving disease surveillance and reporting; ii) enhancing regional response team capacities; iii) building private-public partnerships to implement biosecurity measures and raise awareness; and iv) conducting in-depth assessments of the potential role of wild birds in Nepal's HPAI outbreaks.



FAO/L. Piée

Mixing species of backyard poultry in the Chitwan area.



FAO/L. Piée

A farm worker prepares live chickens for commercial shipment.



FAO/L. Piée

Cleaning eggs on a commercial farm before transport to market.

Bhutan

Highly Pathogenic Avian Influenza
21–27 March 2010 and 17–21 May 2010

When the Government of the Kingdom of Bhutan experienced its first outbreak of HPAI in February 2010, authorities took swift and immediate action to respond to the threat. To further support its own efforts, the Government requested FAO assistance to: i) review control measures implemented and advise on improvements; ii) assess risks of future introductions; and iii) examine requirements for equipment and operational costs. The CMC-AH deployed an expert epidemiologist on a five-day mission to address these issues.

The expert found control measures had been well planned and implemented. Previous assistance, including the World Bank's National Influenza Preparedness and Response Project, had financed the Government's preparedness

planning and actual outbreak response measures. Looking to build on this support, the CMC-AH expert identified short-term needs for laboratory equipment and technical assistance to improve future capacities. The expert also noted opportunities for strengthening cross-border cooperation to enhance early warning and control.

In addition to the mission, the CMC-AH continued to support Bhutan through the provision of personal protective equipment, sprayers and rapid test kits. The Centre also facilitated the shipment of samples to the OIE regional reference laboratory and promoted regional linkages. In late May 2010, the CMC-AH deployed a second mission focused on increasing laboratory capacities for polymerase chain reaction diagnostics.



FAO/D.Hadrill

A Bhutanese schoolgirl uses a footbath to help avoid further spread of HPAI.



FAO/D.Hadrill



FAO/D.Hadrill

Examples of biosecurity measures applied around HPAI-infected areas.

Belarus

African swine fever
2–7 May 2010

Due to the persistence of ASF in the South Caucasus and its spread within the region in recent years, the risk of ASF introduction into Belarus has been on the rise. In light of this increased threat, the Government requested FAO assistance to help assess the risk of ASF incursion. FAO deployed a CMC-AH mission to: i) help assess the situation and national capacities; ii) recommend risk reduction methods; iii) assist with resource mobilization; and iv) investigate cross-border approaches.

The CMC-AH mission team identified the backyard sector as the most likely route of ASF introduction. However, the team noted positive steps had already been taken toward national preparedness. Levels of stakeholder awareness, especially in wildlife management, were high, early detection strategies were in place and contingency plans were elaborated and distributed.



FAO/C. Mandrá

Backyard pigs can have a higher exposure to the ASF virus owing to possible and frequent contact with wild boars.

The team recognized a comprehensive approach addressing a number of key risks was required. The CMC-AH recommended continued preparedness work be undertaken to upgrade each link in the prevention and control chain, including building trust with backyard pig owners through effective communication, clear procedures and quick compensation mechanisms to ensure cooperation in the event of an outbreak. Due to limited funding available for ASF in-country, the CMC-AH recommended the Government attain TCP eligibility and present a proposal for assistance.

CONTACT

Crisis Management Centre – Animal Health
Food and Agriculture Organization of the United Nations
Viale delle Terme di Caracalla, 00153 Rome, Italy
Room C644
Tel: +39 06 5705 6006
Fax: +39 06 5705 4941
E-mail: cmc-ah@fao.org
Web site: www.fao.org/emergencies/programmes/CMC-AH

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FAO/C. Price

CMC-AH Operations Room during a daily action planning meeting for the pandemic (H1N1) 2009 response.