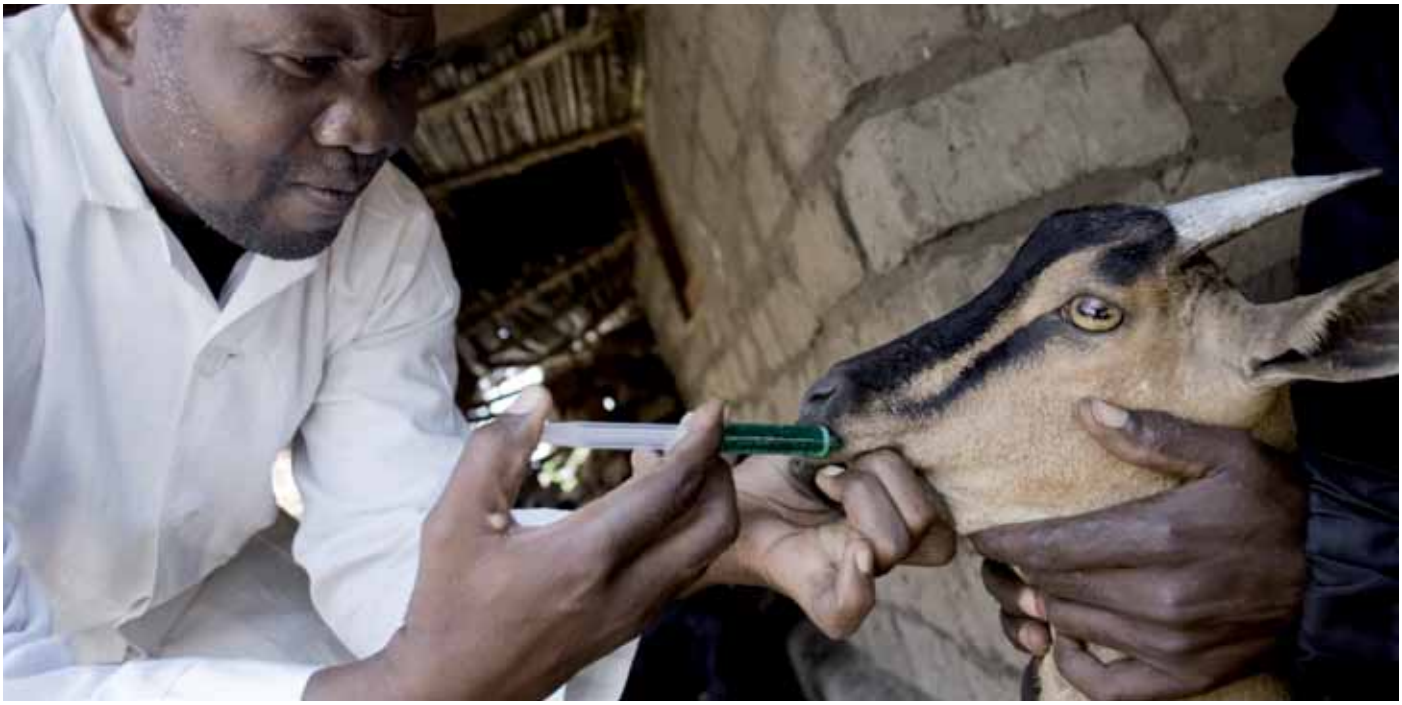
CMC-AH Crisis Management Centre Animal Health

Rapid Missions Update – Animal Health Emergencies

September 2010 to September 2012



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Diseases affecting animals can have a devastating impact on animal productivity and production, trade, human health, and consequently on the economic development, livelihoods and food security of populations.

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 and diagnose outbreaks of animal diseases, and to set up immediate measures to help prevent or stop disease spread.

From September 2010 to September 2012, the Centre deployed 14 rapid response missions, assisting 13 countries in their efforts to investigate, assess and rapidly respond to new or critical epidemiologic situations or outbreaks, including foot-and-mouth disease (FMD), African swine fever (ASF), highly pathogenic avian influenza (HPAI), peste des petits ruminants (PPR), and Rift Valley fever (RVF).

HOW THE CMC-AH WORKS

1. Tracking and planning

The CMC-AH monitors animal health crises and anticipates responses using intelligence from FAO's Global Early Warning System (GLEWS) platform. The centre continually plans for deployment and works with partners worldwide to rapidly mobilize teams of experts.

2. Deployment

Once deployed, mission teams provide affected countries with targeted expertise to control epidemiological situations or outbreaks. Where needed, the CMC-AH also assists with mobilizing new resources.

3. Transition

The consequences of animal disease emergencies can continue well after outbreaks occur and the CMC-AH works with other FAO units to support governments to transition from emergency assistance to medium and longer-term action plans for disease control.

Map of missions September 2010 – September 2012

The West Bank and Gaza Strip

Foot-and-mouth disease SAT2 (FMD SAT2)
14 – 23 May 2012
Objectives: epidemiologic investigation, assessment and control strategies
Team: epidemiology expert, FMD expert

Republic of Azerbaijan

Rabies
10 – 21 December 2010
Objectives: assessment, response and control strategies
Team: disease control expert specialized in rabies

Pakistan

Newcastle disease (ND)
8 – 17 July 2012
Objectives: epidemiologic investigation, assessment and control strategies
Team: ND expert, biosecurity and poultry husbandry expert, operations officer

Libya

Foot-and-mouth disease SAT2 (FMD SAT2)
1 – 6 May 2012
Objectives: epidemiologic investigation, assessment and control strategies
Team: disease expert, epidemiology and risk assessment expert, FMD expert, operations officer

Mauritania

Rift Valley fever (RVF)
7 – 17 January 2011
Objectives: epidemiologic investigation, assessment and control strategies
Team: vector-borne diseases epidemiology expert, diagnostic techniques expert, epidemiology and risk management expert, laboratory network expert

Democratic Republic of the Congo (DRC)

Peste des petits ruminants (PPR)
22 April – 1 May 2012
Objectives: epidemiologic investigation, assessment and control strategies
Team: PPR control expert, emergency operations expert, regional emergency operations expert

Uganda

Ebola
6 – 11 June 2011
Objectives: epidemiologic investigation, regional strategy development and preparedness training
Team: emergency animal disease management expert, laboratory expert, wildlife expert, operations officer

Transboundary animal disease

Zoonosis (disease transmissible between animals and humans)

Bangladesh

Anthrax
23 October – 3 November 2010
Objectives: assessment, response and communication
Team: bacterial disease expert, anthrax expert, operations officer, risk communications expert

Mongolia

Foot-and-mouth disease (FMD)
4 – 12 December 2010
Objectives: epidemiologic investigation, assessment and response
Team: emergency animal disease response expert, FMD expert, epidemiology expert, operations officer

Democratic People's Republic of Korea

Foot-and-mouth disease (FMD)
26 February – 8 March 2011
Objectives: assessment, laboratory review and control strategy
Team: FMD control expert, FMD laboratory expert, operations officer, veterinary policy officer

Viet Nam

Unknown shrimp disease
11 – 19 July 2011
Objectives: epidemiologic investigation, assessment and response
Team: aquatic animal health expert, aquatic epidemiology expert, shrimp aquaculture expert, operations officer

United Republic of Tanzania

Peste des petits ruminants (PPR)
5 – 11 September 2010
Objectives: assessment and response
Team: laboratory expert, epidemiology expert, disease control expert

African swine fever (ASF)
13 – 22 November 2011
Objectives: epidemiologic investigation, assessment and response
Team: disease control expert, epidemiology expert, emergency animal disease response expert

India

Highly pathogenic avian influenza (HPAI)
9 – 16 January 2012
Objectives: epidemiologic investigation, assessment and response
Team: disease expert, disease control and HPAI expert, wildlife expert, epidemiology experts, operations officer, programme coordinator

United Republic of Tanzania

Peste des petits ruminants (PPR)

5 – 11 September 2010

Team: laboratory expert, epidemiology expert, disease control expert.

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Small ruminants are an important resource for the rural population.

The United Republic of Tanzania officially recognized the presence of PPR in 2009 and, with the financial support of FAO and other organizations, implemented vaccinations in affected areas in the north up until April 2010.

Despite these efforts, outbreaks were reported in the south from March through July 2010. Fearing that the disease would further spread throughout the territory and into neighbouring countries, on 30 August 2010, the Government requested FAO assistance to control the outbreaks.

In response, the CMC-AH fielded a rapid response team from 5 to 11 September 2010 comprised of laboratory, epidemiology and disease control experts to review the situation, evaluate the country's laboratory capacities and the risk of spread, and to propose risk reduction measures.

Following its investigations, the mission issued recommendations regarding the national organization of PPR control management activities; the reinforcement of diagnostic capacities; the implementation of clinical surveillance, sero-surveillance, and of vaccination campaigns with a focus on sheep and goats along livestock marketing routes; and the reinforcement of animal movement control. The team also underlined the need for a regional approach involving both affected and non-affected countries to effectively control PPR in the region.

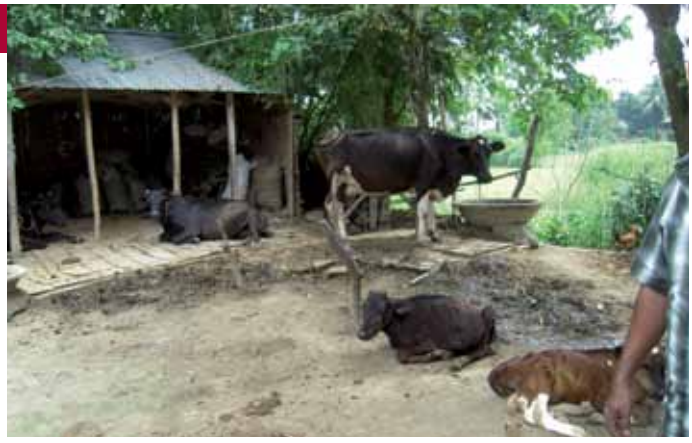
Following the mission, FAO launched a project to assist the country in improving and coordinating PPR control measures and to mitigate the risk of spread into neighbouring countries.

Bangladesh

Anthrax

23 October – 3 November 2010

Team: bacterial disease expert, anthrax expert, operations officer, risk communications expert.



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A typical household with cattle in Sirajganj District.

Between August and October 2010, 607 human cases and 104 animal cases of anthrax were reported in Bangladesh. This anthrax outbreak, the largest ever documented among humans in the country, had a serious impact on both human and animal health, and on the livelihoods of livestock farmers.

While the Government's prompt emergency response brought the outbreak under control, the unusually high number of human cases prompted it to call upon FAO to assist in the epidemiologic analysis of past and current anthrax data, advise on a disease control strategy and facilitate resource mobilization.

On 23 October 2010, the CMC-AH fielded a response team composed of experts on anthrax and other bacterial diseases, operations and risk communications. Following investigations, the mission concluded that anthrax, endemic in the country, required the urgent improvement of control measures.

To achieve this and break the cycle of infection, the CMC-AH proposed a strategy composed of a vaccination programme based on the patterns of occurrences; enhanced surveillance, reporting, biosecurity and diagnostic measures; an awareness campaign; and improved organization and coordination between veterinary and medical authorities.

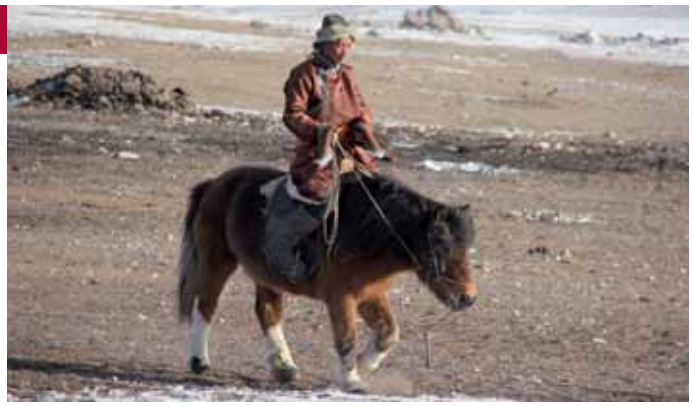
The mission also recommended the Government and national veterinary authorities develop, with assistance from FAO, a proposal for donor support to build a comprehensive and integrated national animal health programme.

Mongolia

Foot-and-mouth disease (FMD)

4 – 12 December 2010

Team: emergency animal disease response expert, FMD expert, epidemiology expert, operations officer.



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The livestock sector accounts for more than 87 percent of Mongolia's gross agricultural product.

The livestock sector is of great importance to Mongolia's economy. It accounts for more than 87 percent of the country's gross agricultural product and is subject to state protection under its constitution. As such, the Government deployed considerable measures to bring under control a series of 20 FMD outbreaks that occurred in 5 provinces from April to November 2010.

As part of these measures, the Government of Mongolia requested FAO assistance. In response, the CMC-AH dispatched a rapid response team from 5 to 12 December 2010 to assess the situation; assist with disease investigation and the evaluation of the risk of disease spread; advise on preparedness, response and contingency planning including risk reduction measures; and contribute to planning for disease control and prevention.

While historically the disease did not persist following outbreaks thanks to the commitment of authorities and to weather patterns working against the virus' activity, the mission proposed a strategy to allow the country to better prevent and control FMD.

The mission's recommendations focused on:

- targeted vaccinations and vaccine efficacy;
- decontamination efforts;
- capacity building to constitute a national body of skilled epidemiologists and disease control experts;
- building on existing knowledge and improving surveillance to better understand factors causing the outbreaks;
- carrying out studies regarding investments in vaccine production; and
- collaborating with neighboring countries to develop a regional plan to manage risk.

The potential role of wild gazelles in spreading the disease was considered, as over one thousand died during the outbreaks with some showing clinical signs of FMD. The mission secured FAO funding to further investigate this issue, as well as to reinforce collaboration on surveillance with China and the Russian Federation.

Republic of Azerbaijan

Rabies

10 – 21 December 2010

Team: disease control expert specialized in rabies.

Rabies occurs regularly in most parts of Azerbaijan, transmitted by dogs and wild carnivores like jackals, wolves and foxes. However, the number of cases among humans and domestic animals rose significantly after two major rivers flooded in May and June 2010. These events resulted in the displacement of wild carnivores closer to settlements and led to an increase in attacks on humans and domestic animals.

Following an official request from the Republic of Azerbaijan, the CMC-AH deployed a disease control expert in rabies prevention and control from 10 to 21 December 2010 to provide assistance in planning rabies control programmes and designing measures to maximize the efficacy of available vaccine stocks.

The mission recommended:

- improving domestic and wild carnivore surveillance and investigation of wildlife-mediated rabies;
- strengthening diagnostics and laboratory-based surveillance;
- accelerating dog rabies control before implementing wildlife vaccination;
- reinforcing public advocacy and public health education on rabies prevention;
- creating a national inter-agency rabies working group composed of ministries and regional authorities to coordinate rabies surveillance and control; and
- strengthening cooperation with neighbouring countries to reduce the risk of transboundary transmission of the disease and to develop common protocols.

Mauritania

Rift Valley fever (RVF)

7 – 17 January 2011

Team: vector-borne diseases epidemiology expert, diagnostic techniques expert, epidemiology and risk management expert, laboratory network expert.

In September and October 2010, exceptionally heavy rainfalls in the Adrar region in northern Mauritania caused the explosion of mosquito populations, followed by a sudden outbreak of RVF. Never before observed in the area, the disease initially led to heavy mortalities among camels and small ruminants and quickly affected humans. Dozens of human cases were reported, including 13 deaths.

In response to an official request by the Government for assistance to control the outbreak, the CMC-AH deployed an emergency mission from 7 to 17 January 2011. The mission team carried out field work and collaborated with human and animal health authorities, international organizations, NGOs and farmers' organizations to identify the key epidemiological features of the outbreak and to propose a plan of action to control it and prevent recurrences.

The team concluded that the introduction of the virus into the region had likely occurred shortly before the outbreak through movements of infected animals from bordering countries. The lack of local immunity and the explosion of populations of mosquitoes, which are vectors of RVF, constituted ideal conditions for the rapid spread of the virus.

The team recommended:

- elaborating a short-term contingency plan at the national, regional and local levels to control and prevent RVF;
- creating a committee to manage zoonoses under the joint direction of the ministries of health and agriculture;
- implementing the ongoing observation of the dynamics of populations of mosquitoes;
- establishing a system of sero-surveillance in major slaughterhouses;
- implementing communications campaigns to inform the population about the modes of transmission of the virus and safe practices; and
- designing more efficient transport systems for laboratory samples.

Following the mission, FAO and the World Health Organization worked together to secure funding from the United Nation's Central Emergency Response Fund to help Mauritania reinforce the diagnostic and surveillance capacity of its veterinary services. The funding also supported a communications campaign to raise awareness of good biosecurity practices to protect animals and humans from RVF.

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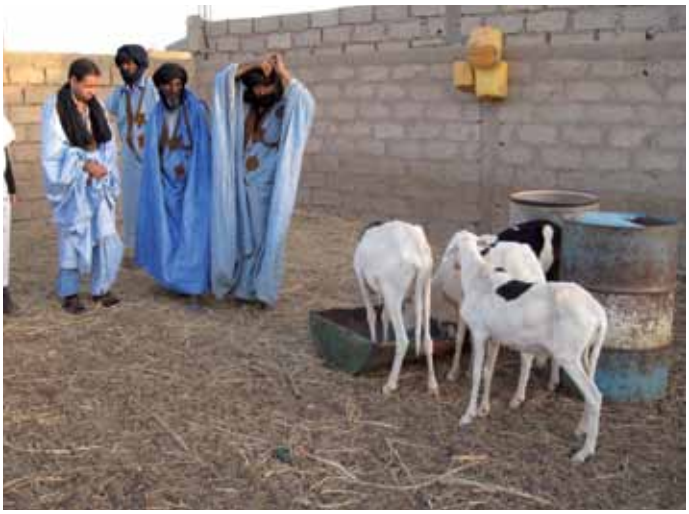
The experiences of pastoralists were gathered in the effort to piece together the epidemiological progression of the disease.



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The mission observes an affected herd of small ruminants

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Blood samples are taken from a camel for RVF testing.

Democratic People's Republic of Korea

Foot-and-mouth disease (FMD)

26 February – 8 March 2011

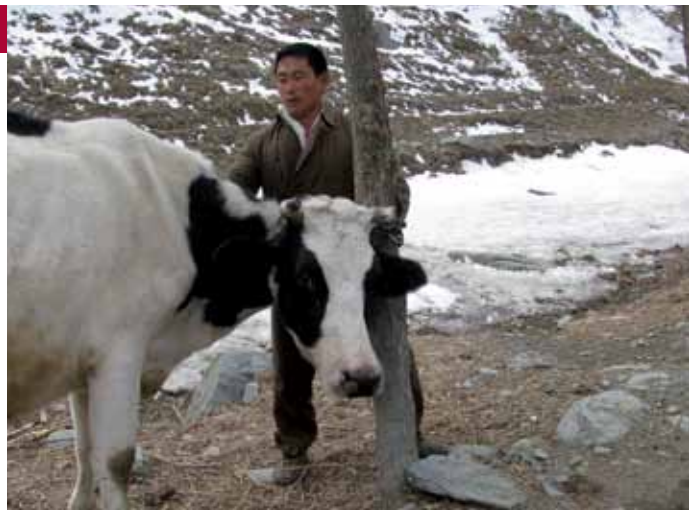
Team: FMD control expert, FMD laboratory expert, operations officer, veterinary policy officer.

The CMC-AH fielded a mission to the Democratic People's Republic of Korea from 26 February to 8 March 2011 to assist authorities with a widespread FMD outbreak posing a serious threat to the country's food security.

The mission team evaluated the extent of the outbreak and the control measures in place including diagnostic and laboratory procedures, vaccination effectiveness, preparedness, response and contingency planning, and early detection and diagnostic capabilities.

A number of issues impeding the control of the outbreak were identified including low biosecurity awareness, the unavailability of vaccine, and unclear standard operating procedures.

The mission formulated an Emergency Action Plan designed to protect areas still free of FMD and stabilize the situation in infected areas through movement restrictions and biosecurity measures, and provided medium and long-term recommendations.



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A farmer describes the impact of the FMD outbreak on his herd.

The mission also suggested the containment strategy be backed up by an emergency vaccination campaign to limit further damage to food security and to manage the risk of the virus escaping from infected areas.

Uganda

Ebola

6 – 11 June 2011

Team: emergency animal disease management expert, laboratory expert, wildlife expert, operations officer.

On 6 May 2012, a fatal case of Ebola in a 12 year old girl was reported in the Luwero district of Uganda. While no other cases were diagnosed at the time, this was the third known occurrence of Ebola in the country following much larger outbreaks in 2000 and 2007-08.

Uganda's geographical situation and shared borders with 5 countries puts it at a significant risk of transboundary animal disease epidemics. In light of these risks, the Government requested assistance from FAO to help reinforce emergency structures and improve the country's preparedness to animal disease outbreaks and epidemiological situations.

The CMC-AH fielded a mission from 6 to 11 June 2011 with objectives including:

- assessing ways to improve the preparedness of the animal health sector and reduce the risk of animal disease outbreaks affecting public health;
- recommending enhanced contingency planning;
- exploring options to reinforce collaboration between animal health, public health and wildlife agencies, as well as with international and national agencies; and
- investigating cross-border approaches in dealing with the disease.

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Due to its pivotal geographical situation, preparedness to animal diseases is essential for Uganda.

Following field visits and consultations with authorities, the mission formulated a set of recommendations regarding response procedures and cooperation with international agencies.

The CMC-AH followed up the mission with a regional workshop on Good Emergency Management Practice (GEMP) for animal health emergencies held in Entebbe. The workshop comprised participants from the veterinary services of Uganda, Ethiopia, Kenya, Rwanda and Tanzania to encourage an integrated regional approach to animal disease management.

Viet Nam

Unknown shrimp disease

11 – 19 July 2011

Team: aquatic animal health expert, aquatic epidemiology expert, shrimp aquaculture expert, operations officer.

Viet Nam is one of the top aquaculture producers in the world. Starting May 2011, the country's Mekong Delta region experienced a serious outbreak of an unidentified shrimp disease that damaged the sector and impacted the livelihoods of over 49 000 small shrimp farmers.

The CMC-AH fielded a mission from 11 to 19 July 2011 to assist the country in investigating the nature of the disease and its epidemiological characteristics; help the Government develop short-term and medium-term action plans to contain the outbreak; consider cross-border approaches in dealing with the disease; and identify resources and donors to assist in the implementation of control measures.

The team consulted with authorities, visited laboratories and shrimp farming communities and facilities, collected field samples, and conducted an epidemiological survey. They concluded that the outbreak had likely been active since early 2010.

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A shrimp farmer observes the health of a shrimp at a grow-out pond.

The team proposed a number of short and medium-term recommendations including completing an epidemiological survey and developing a comprehensive National Strategy on Aquatic Animal Health with detailed protocols to implement farm-level biosecurity and good shrimp aquaculture practices.

Based on the mission and its findings, FAO's Fisheries and Aquaculture Department secured FAO funding to help Viet Nam reinforce the capacity of its veterinary services on biosecurity governance to prevent and control shrimp diseases.

The United Republic of Tanzania

African swine fever (ASF)

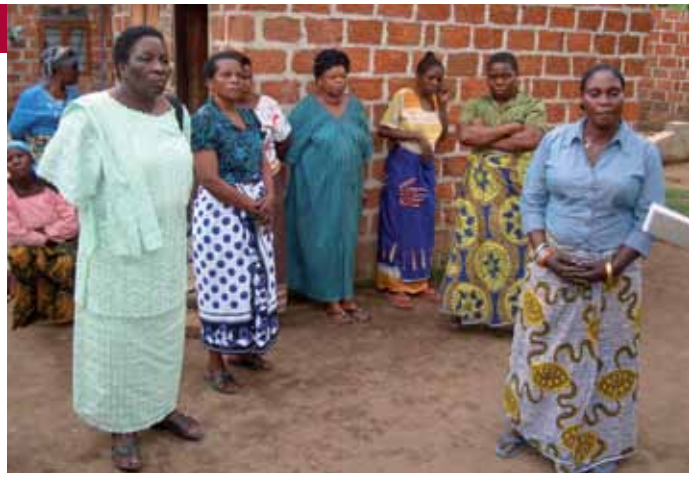
13 – 22 November 2011

Team: disease control expert, epidemiology expert, emergency animal disease response expert.

In November 2011, a CMC-AH mission was deployed as a response to a virulent outbreak of African swine fever (ASF) in the Mbeya region of the United Republic of Tanzania, with a total of 13 900 pigs reported to have died.

The country's pig production has grown steadily over the past ten years and become an important economic sector for the country. The outbreak led to a heavy loss of livelihoods for pig farmers, and to the deterioration of food security for the population.

The objective of the mission was to support the Government's response to the outbreaks by assessing the epidemiological situation and possible risk factors that could amplify the spread of the disease; evaluating existing capacities including surveillance and laboratory diagnostics; exploring the socio-economic impact of the epidemic; and recommending appropriate risk reduction measures.



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Many pig farmers in Tanzania are women who suffered major income losses as a result of the ASF outbreak.

The mission team formulated recommendations focusing on:

- a long-term ASF control strategy;
- movement control and monitoring of free-range pigs and trade routes;
- an awareness campaign at all levels of the pig value chain to reinforce reporting of the disease, biosecurity measures and movement control;
- preparedness and contingency plans; and
- increased funding for the national veterinary services.

India

Highly pathogenic avian influenza (HPAI)

9 – 16 January 2012

Team: disease expert, disease control and HPAI expert, wildlife expert, epidemiology experts, operations officer, programme coordinator.

From 9 to 16 January 2012, the CMC-AH conducted a mission to investigate unusually high levels of crow mortalities thought linked to HPAI in the State of Jharkhand, India.

While no infections were observed in other species, the potential spread to poultry and the resulting risks to public health could not be ruled out.

The mission supported the Government in investigating likely modes of entry of HPAI into crow populations; understanding its impact on crow populations; implementing measures to prevent the virus impacting the poultry system; and raising poultry farmers' awareness of biosecurity measures regarding HPAI and wildlife.

Following investigations, the team proposed that the Government:

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The CMC-AH investigated unusually high levels of crow mortality linked to HPAI.

- conduct further studies to confirm HPAI as the cause of crow mortalities and to establish whether the virus is being maintained by transmission within crow populations or coming from external sources;
- conduct surveillance for evidence of HPAI in other wild birds;
- reinforce surveillance plans in poultry;
- implement awareness campaigns to discourage people from handling crows, and to encourage the reporting of abnormally high mortality in poultry; and
- implement multilateral collaboration between ministries.

Democratic Republic of the Congo (DRC)

Peste des petits ruminants (PPR)

22 April – 1 May 2012

Team: PPR control expert, emergency operations expert, regional emergency operations expert.

In April 2012, the Ministry of Agriculture and Rural Development of the Democratic Republic of the Congo called upon the CMC-AH's assistance to contain a virulent epidemic of PPR causing the massive mortality of goats in the Bandundu Province and posing a grave threat to livestock farmers' livelihoods.

The team investigated the situation From 22 April to 1 May 2012 and concluded that the disease had likely been present in the country since 2008 and spreading eastward since mid-2011. They also noted that the rapid spread was favoured by herders fleeing infected areas with contaminated animals and/or selling off infected goats.

The mission offered a number of recommendations to stall the outbreak including the establishment of rigorous animal movement control and epidemiological surveillance, and of a vaccination campaign in at-risk zones; a large scale awareness campaign about safe biosecurity measures; an international collaboration to reinforce the capacity of the central veterinary laboratory and other veterinarian services; and the establishment of a regional strategy with neighbouring countries.

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The PPR epidemic in DRC is devastating for affected smallholders, who heavily rely on small ruminants for a living.

Post mission, the CMC-AH secured FAO funding to implement some of its recommendations, prioritizing the vaccination of 500 000 animals. Over half the targeted animals had been vaccinated by mid-September 2012.

Middle east and North Africa (MENA) Foot-and-mouth disease (FMD SAT2) outbreaks

Since early 2012, outbreaks of Foot-and-mouth disease (FMD) serotype SAT2 have been reported in the Middle East and North Africa region (MENA), and more specifically in Egypt, Libya, the Gaza Strip and Bahrain.

The SAT2 strain, which originates in sub-Saharan Africa, has not been recently observed in MENA and constitutes a serious threat for the region's livestock population, which is immunologically naive to this serotype.

The CMC-AH fielded two missions to the region, one to Libya and one to the West Bank and Gaza Strip, to assess the situation and recommend control measures.

Libya

Foot-and-mouth disease (FMD SAT2)

1 – 6 May 2012

Team: disease expert, epidemiology and risk assessment expert, FMD expert, operations officer.

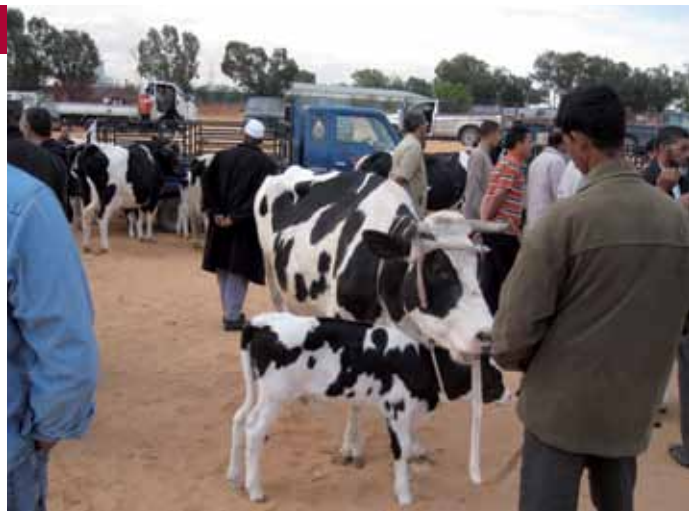
In the midst of a transition phase following a period of unrest in 2011, Libya has been facing challenges that have affected its national veterinary services, limiting their diagnostic capacities and means to control animal movements.

On 12 March 2012, Libya issued an official notification of FMD SAT2 in the area of Benghazi (eastern province), followed by notifications of other FMD strains in the area of Tripoli, and requested FAO assistance to assess the situation.

In response, the CMC-AH deployed a team from 1 to 6 May 2012 to carry out this assessment; advise on vaccination implementation and targeted control measures; and help with the elaboration of an action plan to manage short and medium-term response measures to the outbreaks.

Following consultations with authorities and field investigations, the mission team concluded that FMD was potentially widespread in the country with multiple serotypes circulating, including SAT2. Uncontrolled animal movements were identified as important risk factors for the spread of the disease.

In concurrence with the veterinary authorities, the team formulated recommendations including strengthening surveillance and sampling to obtain a more accurate picture of the types of FMD circulating; implementing an awareness campaign on FMD prevention and control; carrying out a mass vaccination strategy; enhancing collaboration with all stakeholders (farmers, traders, private vets, animal production department, veterinary faculties...) in FMD control strategy and activities; and developing a long-term FMD control programme.



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A cattle market visited by the CMC-AH team in the area of Tripoli.

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A CMC-AH team member takes a sample from a cow showing clinical signs of FMD.

The West Bank and Gaza Strip

Foot-and-mouth disease (FMD SAT2)

14 – 23 May 2012

Team: epidemiology expert, FMD expert.

In recent years, the Palestinian veterinary authorities have reported several outbreaks of foot-and-mouth disease involving strains endemic to region. However, an official request for FAO assistance was issued in May 2012 after samples taken from cattle in the Gaza Strip tested positive for FMD SAT2 strains highly similar to those identified in the 2012 FMD SAT2 outbreak in Egypt.

The CMC-AH deployed a mission to the West Bank and the Gaza Strip from 14 to 23 May 2012 to investigate the reported outbreaks and assess the FMD SAT2 situation; evaluate risks of further outbreaks and spread of the disease; advise on targeted vaccination implementation and monitoring; assist with the elaboration of an action plan to manage prevention and response measures including surveillance strategies; and advise on a regional approach to control current outbreaks and prevent future incursions, including of new strains.

After meeting with animal health officials and conducting field visits, the team concluded that there was no evidence of spread of the disease. However, they recommended further testing to determine the exact strains circulating, as well as booster vaccination of cattle against SAT2 in the Gaza Strip as a preventive measure.

Having observed limited monitoring and diagnostic capacities and implementation of biosecurity measures at the farm level, the team also recommended investments in veterinary diagnostic capacity, the design of an active surveillance strategy, and the implementation of an awareness campaign.

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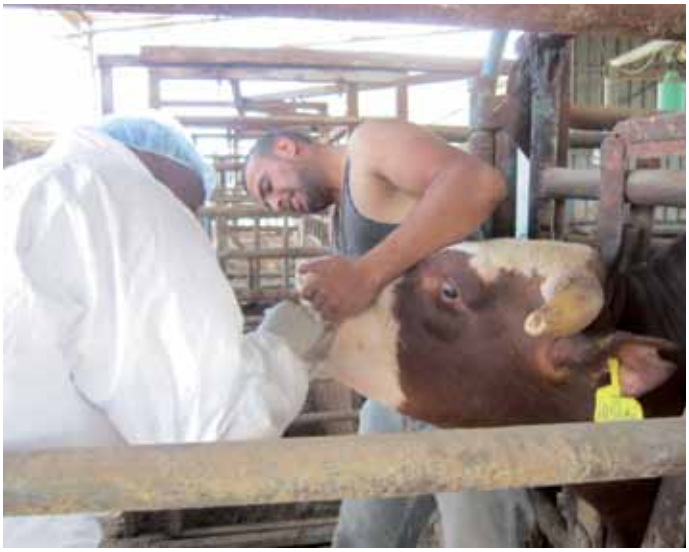
Shepherds immerging their animals in cool water to protect them against the heat in Jericho Governate (West Bank).



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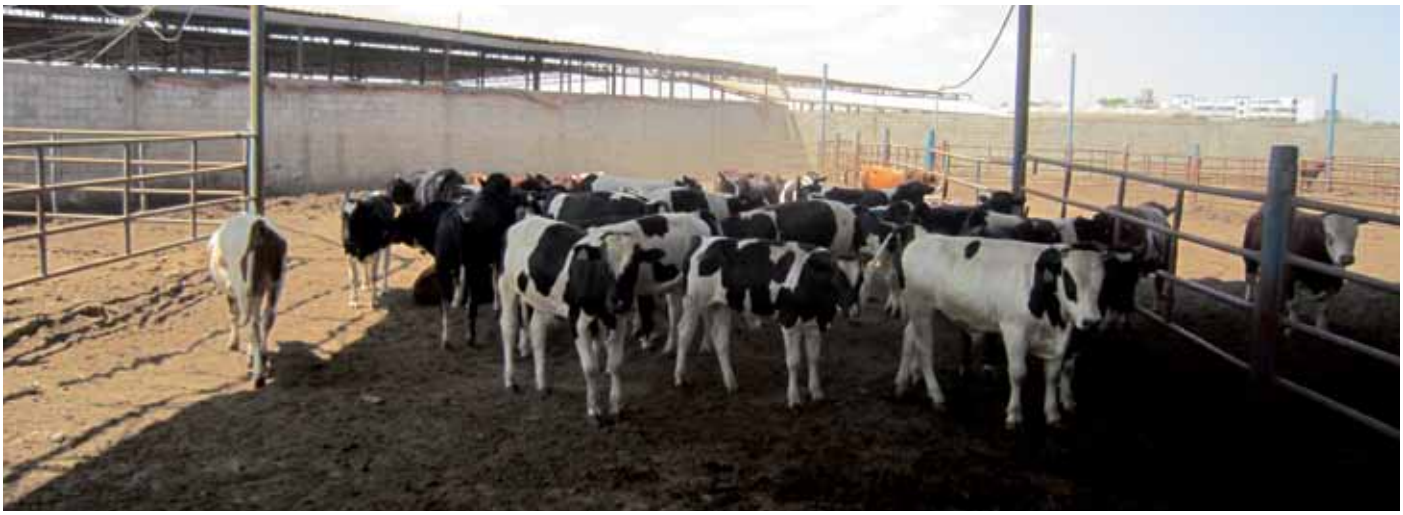
A CMC-AH expert gathers a sample from a cow to determine whether FMD is present on the farm.



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A cattle farm visited by the mission team in the Rafah Governorate (Gaza Strip).

Pakistan

Newcastle disease (ND)

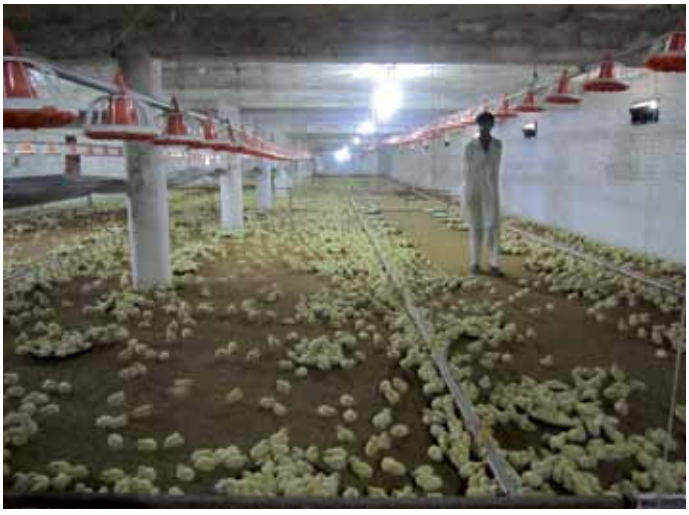
8 – 17 July 2012

Team: ND expert, biosecurity and poultry husbandry expert, operations officer.

In July 2011, Pakistan started experiencing worrisome outbreaks of Newcastle disease (ND) in poultry already vaccinated against the virus, causing significant losses for the sector and raising concerns for food security.

Upon the Government's request, the CMC-AH fielded a mission to help the country investigate the extent of spread of the virus; identify containment measures; and assist with the elaboration of an action plan and the identification of resources.

From 8 to 17 July 2012, the mission consulted with Government and veterinary officials as well as farmers, and conducted field visits to laboratories, breeding farms and bird markets. The team concluded that outbreaks were ongoing and widespread in all regions and suggested that future work focus on biosecurity and vaccinations practices, as well as surveillance and response coordination.



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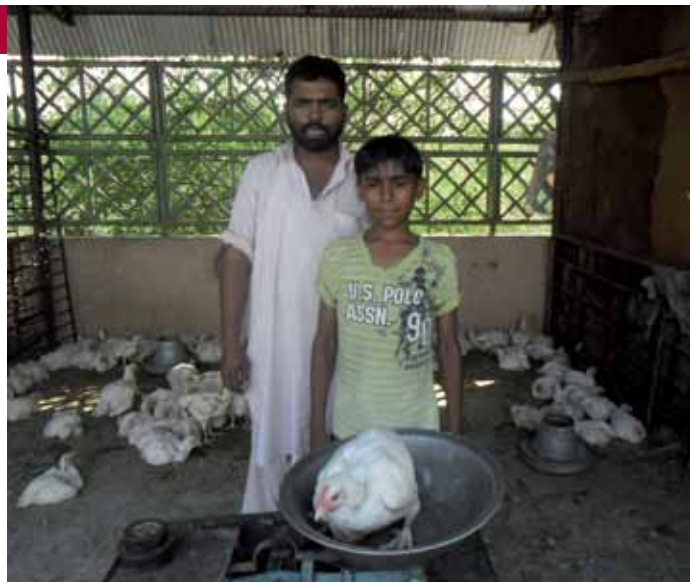
The CMC-AH visits a broiler farm as part of its investigations. NDV outbreaks can cause severe damages to a country's economy and food security.



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The constant loss of poultry is detrimental to people's diets, especially in rural areas.

Based on these findings, the mission recommended a two-phase response composed of an initial short-term action plan of 6 months including:

- a new vaccination strategy;
- immediate improvements to biosecurity systems including the disinfection of vehicles transporting poultry;
- a surveillance programme and national disease emergency committee with appropriate legislation; and
- a compensation plan to encourage farmers to report the disease.

Followed by a 3-year plan focused on:

- ensuring the sustainability of the surveillance network and reporting system;
- further research into the disease and its epidemiological characteristics; and
- the establishment of farming practices that follow biosecurity guidelines.

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DONOR SUPPORT

The CMC-AH and its operations are currently made possible by funding from various generous donors including the Governments of Australia, Canada, the French Republic, the United States of America, and from FAO's Special Fund for Emergency Rehabilitation Activities.