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Improved Preparedness Passes the First Test

Bhutan has only recently been infected with H5N1, despite being located between two countries where it has become entrenched. Three outbreaks, starting in February 2010, have been rapidly contained, reflecting the country's increased level of preparedness and effective collaboration among the authorities.

The Health care system was also unprepared to deal with a potential pandemic. The surveillance system required strengthening and the public health laboratory lacked equipment and training to investigate and manage cases. Added to this were the common constraints associated with insufficient human resources and the difficulties imposed in surveillance and response by the rugged terrain and distribution of the rural population.

The Challenge

Bhutan is a landlocked Himalayan country of under 700,000 people, many of who live in remote mountain villages. It is highly vulnerable to avian influenza, whether through the cross-border importation or smuggling of affected poultry or, to a lesser extent, through transmission via migratory birds. Bhutan and India share a porous border with heavy traffic of people and goods and the majority of poultry imports come from India.

Responding to the Recent Crisis

In January 2004, the Ministry of Health (MoH) and Ministry of Agriculture (MoA) initiated steps to prevent the introduction of H5N1 virus into the country and to strengthen the surveillance system to facilitate detection and response to any outbreak. At this time, the Ministries came together to draft the National Influenza Pandemic Preparedness Plan (NIPPP).

The owners are paid 75 percent of the market rate. The compensation is being paid from the AHIF grant initiated in 2007.

- Dr Basant Sharma.

Regional Veterinary Officer of the Department of Livestock

Bhutan's poultry population of 230,000 is found in two semi-commercial farms, several government farms and in typical backyard settings. At the outset of the project, in October 2007, the general level of biosecurity in the country was reported as low to moderate and the Regional Veterinary Labs and National Center for Animal Health lacked the required equipment, reagents and expertise to detect influenza viruses and effectively manage them.



Agency focal points were identified at this time and coordination and day-to-day collaboration has remained strong, with representatives of each agency being routinely invited to attend meetings organized by the other.

The AHI Grants were signed in July 2007 and December 2008. As elsewhere, while the objectives of the project were specific to Highly Pathogenic Avian Influenza (HPAI), the interventions are expected to contribute to the control of other zoonotic and infectious diseases.

Developing Preparedness

As in other countries, the Animal Health component is supporting national prevention and control strategies. Good progress has been made with regard to disease surveillance and diagnosis, with the Department of Livestock now carrying out clinical surveillance in 203 Geogs (second level administrative units) and mounting awareness campaigns through Veterinary Village Teams whenever outbreaks occur in the adjacent Indian states of Assam and West Bengal. Ministry of Agriculture staff have also been equipped and trained in FAO's TADInfo (Transboundary Animal Disease Information System), designed to provide data management and decision support to national veterinary epidemiology units.

The health component has also made considerable progress, not least in establishing systematic surveillance. Influenza Like Illness (ILI) surveillance has been established at 11 sites across the country. Results of the testing are summarized each month in the widely circulated bulletin, "Fluview".

Lab equipment, necessary to diagnose HPAI has been procured and technicians trained. Consultants are also developing the quarantine system and upgrading the isolation rooms. In addition, the much-needed establishment of polymerase chain reaction (PCR) and immunofluorescence assay (IFA) capacity in the newly completed hospital at Serbithang is moving forward.

Capacity building has been extensive, with Department of Livestock and Bhutan Agriculture and Food Regulatory Authority staff at central, regional and district offices being trained in procedures relating to outbreak containment and field staff being trained in AI preparedness and response. As in the case of agriculture, a Training of Trainers approach has been used in health to develop competency in avian influenza recognition and case management, AI surveillance, clinical management and infection control.



The Ministry of Agriculture has developed a legal framework for the containment of AI, including policy, regulations and operating procedures. These outputs were reviewed by the World Organization for Animal Health (OIE) and used to update the National Plan. These efforts were tested in a desktop simulation in January 2009, carried out without outside technical assistance, and in a subsequent field based simulation exercise. The MoH participated in these exercises which were used to establish roles and working relationships, finalize standard operating procedures, and develop a workable mechanism for outbreak containment.

As in other countries, a highly effective communications and awareness raising campaign was developed by UNICEF. A Knowledge, Attitudes and Practices (KAP) baseline survey was completed in September 2009. This reported that while awareness of AI was high overall, it was lowest (83%) among poultry farmers. This group is most at risk and most likely to engage in risky behaviors. There was however some evidence of positive behavior change among poultry handlers, meat vendors and commercial farmers. In terms of media, the KAP found that the approach needs to be highly differentiated and that the impact of TV spots was generally low.

Going Forward

The recent arrival of H1N1 provided a test of Bhutan's readiness and the response was effective, most notably in terms of the close collaboration between the animal and human health personnel. The AHI Grant has helped Bhutan to significantly improve its capacity to respond to HPAI and other infectious diseases. Looking forward, it will be important for the authorities to maintain focus and ensure the completion of adequate local diagnostic capacity and the communication of messages about the diseases to those most at risk

Key Data

Grant Amount: \$2.5 million

Disbursement (to end March 2010): \$1.3 million

Closing Date: November 2010