African villages without wings ...?

As the spectre of bird flu hovers menacingly, many African households are already counting the cost of the H5N1 virus. Backyard poultry is an important source of revenue and protein in Africa, yet the disease threatens to cause massive hardship in this sector. Porous borders, a busy informal chicken trade and inadequate veterinary services contribute to the spread of the virus. The poorest groups in the chain are also the most exposed and the least informed on the scourge. Accordingly, it is crucial that they be informed on the necessary preventive measures.

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Picture the scene – a typical African village with chickens scratching around in dozens of backyards. Indigenous chicken constitute approximately three quarters of the poultry population in Africa. Fast forward and the image fades abruptly. The chickens are all gone. It seems hard to imagine, but it could happen faster than anyone could ever have thought possible. The bird flu (or avian influenza) crisis is already changing landscapes and livelihoods in parts of rural Africa, and predictions are that the disease will spread much further, threatening the lives of birds and humans alike. There is now open talk of a global pandemic, with comparisons to the outbreak of Spanish influenza that claimed the lives of as many as 50 million people in the early 20th century.

The media spotlight has focused on the possible human death toll, as well as on pharmaceutical industry efforts to develop vaccines and step up production of the anti-viral drug Tamiflu, believed to have some effect in combating bird flu in humans. There has been wide coverage of preparations for a possible pandemic in cities of Europe and the U.S. and much discussion about the chances of the virus making the quantum leap to human-to-human contagion.

But far less has been said about the impact on parts of the world where bird flu is already taking a heavy toll, in countries which are in a much weaker position to contain any outbreak or deal with the consequences once the virus strikes. For millions of rural poor, close contact with poultry is a way of life, so they stand to suffer some of the most serious consequences of the bird flu crisis in terms of health, nutrition and decline in incomes.

On the face of it at least, the international community is taking the bird flu threat seriously. Donors pledged US $ 1.9 billion in January 2006, but the funds have been slow to materialize. A large share of the funds is earmarked for supporting integrated national response strategies in developing countries, which lack trained personnel and equipment to detect outbreaks of bird flu quickly.

Few African countries have the veterinary infrastructure or the money to monitor the massive poultry population. This task is all the more difficult as most ducks, geese and chickens are scattered in backyards rather than contained on commercial poultry farms as in Europe. At the time of going to press, Burkina Faso, Cameroon, Cote d'Ivoire, Egypt, Niger, Nigeria and Sudan had confirmed the deadly H5N1 strain of the bird flu virus, and cases of humans being infected had been found in Djibouti and Egypt.

A major problem facing health and veterinary officials in some developing countries is that not everyone believes that the threat is real.

So as scientists continue their efforts to combat highly pathogenic avian influenza (HPAI) with vaccines and other weapons, alternative sources of nutrition and income will need to be explored in the interim.

A savings bank on two legs

In much of Africa backyard poultry is an important source of revenue and protein. Poultry requires little capital outlay and generally gives a quick return on investment – a chicken can take as few as only 45 days to rear, compared with a year for a pig and three years for a cow. Most households keep a few chickens for meat, eggs, fertilizer and income and often it is the only livestock they can afford. Chickens are in effect a walking savings account – families sell one or two when they need to free up cash to buy farm tools or inputs, cure a sick child or pay school fees.

In the face of such an imponderable threat, there are many more questions than answers, and bewildered African poultry-keepers, bombarded with fright-

ening predictions on the one hand, but often starved of concrete information on the other, may well feel confused: how can they protect their flocks from the disease and what other sources of nutrition should they turn to, in order to feed their families and provide income?

The great vaccination debate

A handful of European countries such as France have experimented with vaccination programmes to protect poultry. But some critics are strongly against pre-emptive vaccination, claiming it masks the virus rather than eradicating it. At current prices, it is unlikely to be a wide scale option for developing countries. And although UN agencies have been helping Nigeria vaccinate some of its flocks, it currently takes four weeks to protect birds – far too long in the event of an emergency. If the virus were to spread much more widely, global stockpiles of vaccines would not be sufficient.

The race is on to develop the first vaccine for humans. The scale of the threat that avian influenza poses to human health is a hotly debated issue. To date, more than 170 people have died, but predictions vary widely over the potential death toll. The World Health Organization (WHO) has presented a worst case scenario of 150 million, should transmission become human-to-human.

But if past events are anything to go by, developing countries are likely to be the last to obtain it. Most African countries lack the funds to build adequate drug stockpiles and their over-stretched health systems are already overwhelmed by other diseases such as malaria, HIV/AIDS and tuberculosis.

Counting the cost of bird flu

But human loss of life aside, the disease threatens to have crippling financial implications. The World Bank estimates that a pandemic could cost the global economy US $ 800 billion and Joseph Domenech, Chief Veterinary Officer at the Food and Agriculture Organization of the United Nations (FAO) has warned that the avian flu crisis is not only a short-term problem, but is likely to be a continuing emergency that will last several years, causing massive damage to bird populations, and domestic poultry in particular.

Early signs of the economic damage caused by the virus are already emerging as millions of chickens have died or been slaughtered and consumers have started to shun poultry and egg products. In Nigeria, as elsewhere, prices of alternative sources of protein such as pork, beef and fish have risen by between 10 and 20 per cent since the outbreak.

On a global scale, the avian flu crisis is expected to tighten Brazil's hold on the poultry export market – it currently exports more than three times the total volume of the EU – and increase the global trend towards industrial-scale poultry production. With concerns about avian flu deepening, plummeting consumer demand is leading to sharply falling international poultry prices. FAO is predicting global trade prospects for poultry in 2006 will lose the 10 percent gains witnessed in 2005 and has revised its projection downwards by 500,000 tonnes from the previous estimate of 8.6 million tonnes. Much of the fall is at the expense of the poorest producers. Unable to satisfy stringent health requirements to allay consumer fears, thousands of small-scale poultry farmers have already gone out of business in Asia. And there are fears the pattern will repeat itself in Africa.

The ripple effect

In many African countries, poultry farmers are already reeling from the impact of the virus, as consumers refuse to eat poultry meat. In Benin, the «Association Nationale des Aviculteurs du Bénin» (ANAB) estimates that half the country's poultry farmers have gone out of business, even though no cases of bird flu have yet been found. The slump has had a dramatic knock-on effect throughout the entire sector, including chicken feed suppliers and take-away roast chicken outlets in the towns. In Nigeria, producers are losing their livelihoods as birds are culled and prices tumble, and employees on farms are losing their jobs. Many medium-scale poultry farmers had taken out loans to buy their stock and now find themselves unable to keep up with the payments.

Animal health experts say it is vital for better controls to be introduced at borders and airports, and for public awareness to be stepped up as to the dangers and the risks of smuggling banned poultry and poultry products. New evidence suggests that in the African context at least, the movement of poultry and related products has been largely responsible for the spread of the virus. In Nigeria, health workers are spreading the word about the risks, using leaflets, meetings and the media. But not everyone is receptive to the warnings. A major problem facing health and veterinary officials in some developing countries is that not everyone believes that the threat is real. In several northern states of Nigeria, people are opposing mass culling, claiming it is a western plot.

Do factory farms and globalization account for bird flu spread?

Compensation schemes need to be more effective if farmers are to be encouraged to report cases of illness or death among their flocks. Djibouti was forced to halt culling after poultry keepers refused to cooperate unless they received immediate compensation. In Cameroon, where the virus has been confirmed in the north, some small-scale poultry farmers are reportedly hiding their chickens in their homes to avoid seeing them culled. Poultry producers associations claim the compensation figure of 2,000 FCFA (US $ 4) per bird is only a fraction of the real value.

For many African countries, which were beginning to reap the rewards of a concerted campaign to encourage the local poultry industry and bolster it against the flood of cheap imports of frozen imports from factory farms in Europe and the U.S., the timing could not have been worse. Imports of poultry to sub-Saharan Africa more than tripled between 1995 and 2002, rising from 97,816 tonnes to 318,102 tonnes. And the spread of avian influenza is likely to accelerate this trend, say trade experts. They also warn that dumping of poultry on African countries from abroad could drastically affect prices, as hap-

A private veterinarian at work in Burkina Faso.

pened with beef after the Bovine Spongiform Encephalopathy (BSE) crisis.
Globalization has brought massive movements of hatching eggs, chicks, chickens and poultry products, including poultry feed, much of it poorly regulated. A report by the NGO GRAIN contends that it is the intensive industrial poultry practices used in Asia, America and Europe, rather than the backyard system practised in poorer developing countries, that poses the greatest threat of fuelling the bird flu crisis. It points the finger firmly at the massive trans-national factory farms «which send the products and waste of its farms around the world through a multitude of channels» while small-scale poultry farmers pay the highest price from the fallout.

Information is the key

However, in spite of the daunting scale of the threat, there is much that can be done. Information will play a crucial role in preventing the virus from spreading further across Africa. While many governments have made contingency plans to cope with the disease when it strikes, they are less well prepared in reaching village chicken farmers and involving them in control programmes aimed at promoting better poultry-keeping practices. Education programmes for poultry farmers and rural communities should include information on how the avian Influenza virus is spread, the importance of involving veterinary authorities in poultry management and the need for keeping scrupulous clinical records. Such campaigns should introduce certificates to those participating in poultry health and husbandry programmes so that people who buy their chickens for breeding can trace the history of the birds. Also important are information campaigns about safe methods for handling poultry, dead and alive. FAO is urging farmers and traders, and all others who come into close contact with poultry, to ensure basic hygiene standards and to tighten up bio security and has published guidelines to help.
CTA (www.cta.int) has a role to play by informing small-scale producers in ACP countries of the threats and precautions to take. Its flagship publication Spore (http://spore.cta.int/) has closely followed the deepening bird flu crisis and will continue to do so. CTA has joined CIRAD (www.cirad.fr) in the publication of the booklet «Le virus H5N1, le poulet, les autres animaux et l'homme d'ici et d'ailleurs d'Asie en Afrique» that will be translated soon into English and Portuguese language.
CTA is open to requests for technical and financial support to publish other material, including leaflets, and fact sheets in local languages. The Centre regularly organizes seminars on publishing technical materials, as well as on awareness raising, both of which could prove useful for countries wanting to increase the flow of information about bird flu to the public. CTA's Question and Answer service is available in 37 countries to field queries on issues relating to avian influenza and is already doing so.
In short, the picture is bleak, but certainly not hopeless. If steps are taken swiftly enough, there is plenty that can be done to mitigate the impact on African rural communities and make sure they have the best chance possible of weathering the crisis.


Photo: GTZ

Possible meat alternatives for Africa

Transforming cereals into meat is an inefficient method of obtaining protein, but chickens are more efficient than many other birds or animals. Pro rata, it takes far more cereals to obtain a kilo of beef than it does to obtain the same quantity of chicken. Most important, particularly for small-scale African «back-yard» chicken production is what one would call the «vacuum cleaner» effect. Chicken do collect any kind of bio waste (protein also in form of worms) and make it available for the human food chain.
Fish are the most efficient converters of feed into protein, so aquaculture is an attractive option. Another strategy is to increase the vegetarian component of diets, including addition of protein-rich pulses and Soya. Rabbit production offers good potential in developing countries, both as an alternative meat source and for income generation. A number of programmes aim to encourage small-scale breeding of rabbits in Africa, and these could be extended and expanded. True, the bird flu virus has been detected in domestic cats, indicating that the species barrier may be weakening, but to date at least, rabbits have not been affected. Other protein alternatives worth exploring include agouti, a rodent native to Central, South America and the West Indies and now reared in some African countries for their meat.
On an optimistic note, it is also noteworthy that bird flu has been around for many years, having been noticed as far back as 1878. Indeed, many influenza viruses, some more harmful than others, exist in different countries all over the world. We can hope, therefore that the effects of the present upsurge can diminish through the use of vaccines or a decline in virulence as is the case in the many other influenza viruses referred to above.

Top ten sources on bird flu

Here are selected websites and publications on the latest developments in the crisis, as well as advice on prevention for poultry keepers and consumers.

- European Commission Animal Health and Welfare department: http://europa.eu.int/comm/food/animal/diseases/controlmeasures/avian/index_en.htm#ai_third
- Food and Agriculture Organization of the United Nations: http://www.fao.org/ag/againfo/subjects/en/health/diseases-cards/special_avian.html
- SciDev.Net: http://www.scidev.net/birdflu
- World Organisation for Animal Health (OIE): http://www.oie.int
- World Health Organization: http://www.who.int/csr/disease/avian_influenza/en/index.html
- *Man, bird and beast*, CTA Spore 123, June 2006.
- *Le virus H5N1, le poulet, les autres animaux et l'homme d'ici et d'ailleurs d'Asie en Afrique*, CIRAD, CTA et al., June 2006.
- *The top-down global response to bird flu*, GRAIN, April 2006.
- *Fowl times for poultry farmers*, The Economist Global Agenda, 1 March 2006.
- *Say Goodbye to Cheap Chicken*, New Scientist, 4 March 2006.