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Finding strategies that work in developing countries

A one-size-fits-all solution won't work

National decisions about how to control bird flu are critical to global as well as national success. The best ways to fight bird flu in industrialized countries are often not the best for developing nations. This article describes the strategy of the Consultative Group on International Agricultural Research (CGIAR) and its partners to improve control of the disease in developing countries, and thus to help protect both human health and development around the world.

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The H5N1 form of avian influenza that has recently swept across Asia into parts of Europe and Africa is unprecedented in scale and geographical spread. The international community has pledged over US \$ 1.9 billion to fight this highly pathogenic form of avian influenza, or bird flu, and prevent (or prepare for) a human pandemic. Emergency efforts in many developing countries, where the disease may become entrenched, show that conventional responses may be inappropriate. A better understanding of the developing-country context is needed to make the enormous investments devoted to control efforts effective and equitable.

Our assumptions are that unless we employ control strategies appropriate for developing countries, we will fail in our efforts to control bird flu globally. Rather than keep technical and socio-economic issues separate in our thinking and planning, we must unite them and fully engage the countries of the developing world and their small-scale poultry farmers and sectors in this battle – perhaps the first of many campaigns to control potentially devastating new diseases.

The image of an emerging human disease being tackled by an all-out global effort that triumphantly eliminates the threat is enduring but (outside Hollywood) generally inaccurate. Whereas a few new diseases such as SARS (severe acute respiratory syndrome) have been handled in this way, the nature and context of highly pathogenic bird flu means it will not be so easily conquered. Some countries in the developing world, for example, are likely to face a fairly constant threat of bird flu, and the disease may become endemic in some areas. Detecting the disease and controlling it are often hampered not only by weak veterinary services, but also by the difficulties of getting large numbers of dispersed, unorganized, small-scale and backyard poultry keepers to understand the dangers of the disease and to comply with efforts to control it. This kind of challenge raises a new set of research issues that needs addressing. To identify those issues, an international group of experts is working together to determine the research gaps

and priorities for tackling bird flu in developing countries.

The International Food Policy Research Institute (IFPRI) and the International Livestock Research Institute (ILRI), two of 15 centres supported by the CGIAR, are spearheading this research with many other partners. Their common goal is to identify appropriate strategies for the developing-country context and to help governments make informed decisions on how to control the spread of bird flu while protecting livelihoods of the poor.

The need to advance understanding in this area is urgent. Rapid changes in poultry production systems, trade regimes, and consumer perceptions are challenging existing ways of dealing with bird flu. Developed countries and their poultry producers have largely shaped thinking on how to best tackle bird flu. But conventional control measures – culling and compensation – are increasingly questioned in developing countries, where these strategies are often problematic if not impossible to implement.

Importance of poultry and bird flu to the world's poor

Poultry production is a central source of food and income for billions of poor households in the developing world. In Southeast Asia, where highly pathogenic bird flu is endemic in many areas, poultry are crucial to the farming systems of poor people. Poultry raising and selling has long provided a pathway out of poverty. Rapidly rising demand for poultry, linked to population growth, rising incomes, and urban migration, has intensified production, creating jobs and expanding opportunities for smallholders to sell their poultry products.

In both Asia and Africa, meat and eggs from poultry are important sources of essential micronutrients for poor and vulnerable groups, comprising mostly women and children. Most poor households keep backyard flocks, which can mingle freely with wild birds. The domestic flocks commonly scavenge for food, entering households and sharing outdoor



A young man on the outskirts of Hyderabad, in south-central India, takes his family chickens to market.

Foto: ILRI

areas where children play, creating many opportunities for human exposure. When bird flu breaks out, the economic losses faced by poor communities in developing countries can be devastating.

A global problem

Bird flu is a global problem. The implications of ineffective control of bird flu are not limited to poor communities. If the disease is left unchecked, and continues to cycle and periodically break out, large-scale commercial poultry production and worldwide trade will remain under constant threat. The risk of highly pathogenic bird flu becoming transmissible from human to human is of course a concern shared by the whole world. Furthermore, the transboundary nature of zoonotic diseases such as bird flu requires that efforts to prevent or control the disease elicit the cooperation of key stakeholders worldwide.

Hard choices for the developing world

The key to successful control of bird flu in developing countries is enlisting the cooperation of all actors, including the many poor households that keep poultry, to help rapidly detect the disease and comply with control measures. The conventional strategy is to compensate producers who lose their flocks through preventive culling; this helps stop disease spread and provides an incentive for poultry farmers to report suspected outbreaks. But developing-country governments are struggling with this control method. The first problems are determining how, and how much, to compensate farmers for their destroyed birds. Then there are the obstacles to be faced in implementing a compensation scheme where administrative infrastructure is weak and corruption a problem. It is also difficult for poor countries to find the resources with which to compensate poultry farmers, especially

when repeated outbreaks occur. Finally, there may even be new problems generated by poorly designed compensation schemes, which could perversely encourage people to try to benefit from the compensation or to elude culls.

Service priorities and research needs of developing countries

To help developing-country governments and aid agencies make informed pro-poor decisions on bird flu control, in June 2006 ILRI and IFPRI convened a consultation that used frontline and expert opinion (1) to identify roles that research could play to support lead agencies in controlling bird flu and (2) to highlight medium- and long-term research needs in the areas of epidemiology, genetics, vaccines, diagnostics, and socio-economics. Findings from this consultation are posted at www.ilri.org and www.ifpri.org.

The CGIAR centers and their partners are focusing initial activities on helping governments make more informed decisions on how to prevent or limit the spread of bird flu while minimizing the adverse impacts of those interventions on the poor. Even governments that never face an outbreak must decide how much to allocate to surveillance. These funds are often diverted from other activities (e.g., HIV/AIDS control, food security, rural infrastructure), which are also crucial to the welfare of the poor. Developing-country governments are therefore challenged to determine the difficult trade-offs between the potential benefits of preventing and controlling bird flu with the costs of doing so – even before an outbreak takes place.

Furthermore, the burden of control costs may fall disproportionately on the rural poor, who consume their own poultry and rely on it for their livelihoods. This and similar discrepancies raise other issues inadequately addressed as yet. To bridge these knowledge gaps, researchers at ILRI and IFPRI have begun research with a

wide range of partners to do the following.

- Understand how bird flu is spread (e.g., via migratory birds, commercial trade, veterinary inputs, live animals, or transportation of infected equipment or soils) to poultry and humans, and how this might differ by production system or time of year.
- Assess the social and economic impact of the disease and its control, particularly on poor poultry producers, sellers, and consumers.
- Highlight market failures (in terms of organization, information, institutions, transactions, and regulations) that necessitate policy interventions, such as assessing alternative mitigation measures that enhance smallholder adoption of control measures.
- Identify effective, affordable, and sustainable control techniques tailored to local circumstances in developing countries, possibly entailing public-private partnerships or other innovative institutional approaches.
- Promote ways to increase compliance of surveillance and control measures, including better designed compensation programs and strategies more appropriate and sustainable in developing countries.
- Communicate research findings to policymakers faster and more effectively.

The central importance of developing countries in the global battle

The importance of developing countries as locations where the highly pathogenic bird flu virus is most likely to spread undetected, possibly leading to a full-blown global human pandemic, is a strong incentive for the developed world to support poor countries in combating the disease. No global control strategy will succeed without the involvement of developing-world communities.

Researchers can help provide developing countries with the information they need to implement equitable, effective and evidence-based control strategies, thereby strengthening the voice of developing countries in international fora where global strategies are negotiated. Partnerships that help developing countries establish capacity in risk analysis, epidemiology, and socio-economic analysis should help position these countries as full partners in the battle against highly pathogenic bird flu. Finally, this research can help the global community learn lessons on how to reduce the growing risk of emerging zoonotic diseases that threaten livelihoods as well as lives.