

Smallholder Livelihoods and Animal Health in the Greater Mekong Sub-Region: Lessons from H5N1

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ABSTRACT

Since its emergence, H5N1 HPAI has attracted considerable public and media attention because the viruses involved have been shown to be capable of producing fatal disease in humans. While the virus may eventually mutate into a strain capable of sustained human-to-human transmission, the greatest impact to date has been the harm inflicted on the highly diverse poultry industries in some affected countries. HPAI control measures have so far focused on implementing prevention and eradication measures in poultry populations, with more than 175 million birds culled in Southeast Asia alone.

In response to this, FAO and UKAID conducted a three-year research project assessing the efficacy of risk reduction measures and their effects on the livelihoods of smallholder farmers and their families. The specific purpose of the project was to aid decision makers in developing evidence-based HPAI control measures at both national and international levels that will be effective in terms of disease risk management, cost control, and social outcomes, protecting and enhancing the livelihoods of the region's rural poor majorities. In this synthesis, we present the many lessons of a four-country case study, with particular insights regarding smallholder producers in developing countries, who are and will remain the majority of livestock producers for the foreseeable future.

Key words: H5N1, HPAI, Poultry, Risk reduction, Smallholders

INTRODUCTION

H5N1 HPAI has attracted considerable public and media attention because the viruses involved have been shown to be capable of producing fatal disease in humans. Its greatest impact to date, particularly the in the Greater Mekong Sub-Region (GMS) has been the harm inflicted on the highly diverse poultry industries in affected countries. HPAI control measures have so far focused on implementing prevention and eradication measures in poultry populations, with more than 175 million birds culled in Southeast Asia alone.

Poultry production in the GMS is heterogeneous, with the use of different species, different production and marketing systems and the provision of a range of products and services. Typically, poultry are an integral feature of smallholder agriculture, where the majority of households keep a small flock of 'indigenous', dual-purpose birds to meet household consumption needs, social obligations and minor cash expenses, the latter by sales through informal, live bird marketing channels. This traditional, extensive poultry production system

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is virtually ubiquitous and comprises by far the majority of poultry producers. Traditional, low-volume poultry supply chains support livelihoods across extended networks of low-income people through production, distribution, processing, and marketing.

The specific purpose of the project was to aid decision makers in developing evidence-based HPAI control measures at both national and international levels that will be effective in terms of disease risk management, cost control, and social outcomes, protecting and enhancing the livelihoods of the region's rural poor majorities. In this short paper, we present an overview of lessons of a four-country case study, with particular insights regarding smallholder producers in developing countries, who are and will remain the majority of livestock producers for the foreseeable future.

MATERIAL AND METHOD

Events associated with HPAI outbreaks, including control measures adopted in response to them, appear to have seriously upset the gradual transition of the GMS poultry sectors. To better understand these impacts, and their implications for the viability of smallholder farmers, this study conducted detailed surveys in and around major poultry producing regions in Cambodia, Lao PDR, Thailand, and Viet Nam.

In all four countries, surveys were conducted with market actors including farmers, aggregators (i.e., traders), market vendors, and consumers. In total, between 1 000 and 3 000 surveys were conducted in each country. Actors along each stage of the supply chain were asked about their roles within the supply chain, experiences with disease outbreaks, attitudes toward disease risk, and perception of overall risk in the poultry sector. In addition, information was collected about smallholder experiences with the public control measures that were implemented in response to outbreaks. Within each country, study sites were selected based on poultry production characteristics and past HPAI outbreaks. Respondents were then randomly selected within each site in order to be representative of rural poultry farmers in the areas (Heft-Neal et al 2009a).

RESULTS

Our detailed investigations of the smallholder poultry supply chain in Thailand, based on interviews with consumers, farmers, ex-farmers, farmer networks, traders, and vendors, suggests that recent changes in market conditions, as an indirect result of the HPAI outbreaks, are making it very difficult for small-scale poultry farmers to sustain their enterprises in Thailand and, in some cases, Viet Nam. At the same time, the small-scale poultry sector in Laos PDR and Cambodia have remained largely unchanged.

Commonalities across study countries that were identified from the surveys include the role of poultry in livelihoods and smallholder incentives to participate in disease control. Poultry was found to play an important role in the livelihoods of most rural households. Moreover, while most backyard farms consist of only a small number of chickens, these livestock serve an important function within the household. Poultry was found to account for 0-35 percent, but typically less than 10 percent, of total cash income. Consequently, even though the majority of (poor) households can withstand one-time losses of their poultry, reduction / foregoing of poultry income was found to negatively affect within-household bargaining power and expenditure allocation of women, which is particularly targeted at safeguarding the welfare of children.

Other features of the study areas were found to be quite variable. Reported strategies for coping with HPAI (but more so with HPAI control measures) of the poor are very diverse and included foregoing consumption, taking children out of school, rural – urban migration in search of alternative income opportunities, etc. In Thailand, our results suggest that recent changes in market conditions, as an indirect result of the HPAI outbreaks, are making it very difficult for small-scale poultry farmers to sustain their rural enterprises. Despite the absence of large outbreaks since mid 2004, we observed significant movements out of the native chicken sector during 2006 and 2007. Households who grew chicken in the past continue to do so for own consumption, but they presently see sharply diminished prospects of a livelihood from this form of livestock. In contrast, conditions for smallholder poultry production were found to not have significantly changed in Cambodia or Lao PDR while the situation in Viet Nam was found to be somewhat intermediate with ‘erratic’ application and lifting of poultry production bans and plans for livestock production zones.

DISCUSSION

One of the main outcomes of the study was significantly better understanding of how existing institutions and stakeholders operate and interact within supply chains. It became evident that trust, reliability, and market information are main components of these relationships. Moreover, while some commonalities emerged, there were also many distinctive features of local poultry supply chains in each country.

Integrated industrial poultry production is well established in Thailand and emerging in other Mekong countries, targeting both urban and export markets. Simultaneously, however, intensive, industrial poultry production systems have been established, particularly in Thailand. The traditional extensive and the industrial poultry production systems are extremes, between which ‘hybrid’/‘intermediate’, commercial/ market-oriented systems exist, combining characteristics of the other two (e.g. partial scavenging with feed supplementation, indigenous birds crossed with industrial poultry lines, thereby relying on ‘formal’ input supply systems), operating at intermediate scales (hundreds to several thousands of birds), and mostly relying on ‘traditional’, informal live bird marketing networks. Each production model has advantages and disadvantages and none is likely to disappear completely. In Thailand, large-scale industrial poultry production is one of the economy’s most important sources of animal-derived food, employment, and income. In Cambodia, the ‘formal’, industrial poultry sector occupies a minor share in national poultry production, while the situation in Viet Nam is intermediate between that of Thailand and Cambodia.

Although the market share of smallholder poultry production is diminishing in many regions as the industrial poultry sector expands, market-oriented smallholder producers still constitute the vast majority of ‘commercial’ poultry production units. In the GMS, as elsewhere, their market interactions are governed by verbal agreements and informal contracts - smallholders and small enterprise downstream intermediaries are deeply embedded in networks of customary trading and mutual insurance. Trust, reliability, credit, conflict resolution, and contract enforcement are main components of these relationships.

Features of these smallholder production systems should be taken into account when developing policy responses to disease outbreaks. Farmers are used to recurring large-scale poultry losses from a variety of poultry diseases and can cope with a ‘once-in-a-while’ loss of their poultry stock by moderately increasing other agricultural activities. The majority of Viet Nam’s and Cambodia’s poor smallholder poultry keepers live in the densely populated

lowlands, where market transactions and movement of goods, livestock and people are frequent.

Policies that disrupt livelihoods may drive production and trade underground and thereby unintentionally increase disease risk. On the other hand, allowing the regional poultry trade, in its current form, poses risks to public health and large-scale producers, in addition to the risks posed to smallholders' poultry and their own health. In all GMS countries, HPAI responses were, at least initially hampered by conflict between the Ministry of Health and the Ministry responsible for agriculture, and within the latter, by rivalries between departments, e.g. production and animal health.

In Thailand poultry exports drive HPAI responses. The major export-oriented producer companies are represented in their interactions with government officials and the media by a handful of highly organized and sophisticated lobbying groups. Many decisions taken by Thai officials reflect direct input from and / or collaboration with the industrial lobby whose main concern was to maintain / regain their access to global export markets. To their credit, the industrial producers contributed financially to a scheme to boost compensation to smallholder farmers who surrendered their birds.

In Viet Nam, fragmentation of authority within the structure of government from central to local levels constrains HPAI responses. Central policies become a channel to distribute patronage and major discrepancies exist between central and local policies, and between policy intents and policy results. Implementation of policies is extremely contentious, with competition for resources intersecting with competition for power.

In Cambodia, poor governance and institutional failures are exacerbated by strong patronage politics and power monopolies. Corruption, quarrels, rivalries and competition between political parties, ministries and departments hamper collaboration and goal achievement. The private sector is not a driving force in HPAI control.

CONCLUSION

Given the structure of current market incentives, smallholder poultry keepers are unlikely to adopt compulsory bio-security measures. Diseases are part and parcel of their everyday experience and local responses are determined by local cultural rather than by imposed technical rationales. Therefore, any attempt to formalize markets without maintaining low transactions costs will displace low income participants across low income food supply chains, undermining food security and livelihoods for countries with low income majorities. Mitigation of collateral impacts through supporting coping mechanisms, however, is likely to enhance social effectiveness of public and private HPAI risk management programmes. There is a direct link between the perceived value of poultry and the optimum disease management approach. Higher valuation of live poultry will increase the care taken, possibly enhancing monitoring efforts and thereby reducing the culling radius. Enhancing the value of poultry, via improved marketing and safety, would ultimately result in less drastic HPAI control policies.

Development of incentive-compatible policies critically depends on information technologies. The time lag between infection and detection, both at the bird and flock level, will affect policy design and the impact of these policies. When, in an ideal situation, detection is low-cost and immediate, one can introduce incentives like penalties for not reporting sick animals and having them culled. A penalty that is equal to the 'social cost' of not culling is 'optimal', and is superior to a subsidy for culling (compensation for sick birds)

because the subsidy will result in over-production and under-investment in prevention. Also, when information is imperfect, ‘ring’ culling is a crucial disease control measure. Earlier (and more accurate) information will reduce the optimum radius of culling and thereby spare resources and livelihoods.

The need for improved disease surveillance is global, willingness to pay at each location may be small, but gains may be substantial. Based on a simple statistical value of life calculation, we estimate that the gain from reduced pandemic risk is in the billions of dollars, annually. The private sector is unlikely to invest optimally in development of improved surveillance and risk reduction measures. Therefore, development of disease surveillance technologies has a global public good element, and their development should be supported by public sources.

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