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## Key Findings

- Efforts to restructure the poultry industry in low income HPAI countries could threaten smallholder livelihoods.
- Disease risk transmission has as much to do with supply chains as with production practices.
- To promote supply chain, a certification pilot program for Viet Nam backyard poultry is proposed.
- Lessons inform this exercise can inform more effective biosafety for smallholder marketing and, ultimately, improve incentives for better production practices.

The study will mainly be targeting markets in the outer districts of Ha Noi, as well as the large Hi Vi wholesale market. A questionnaire survey will provide detailed information about the dynamics and key actors in the local live poultry supply chain. A second component of the study is designed to assess the feasibility of establishing a tracing system for individual birds in the Vietnamese poultry value chain. Finally, a third component of the study aims to assess the potential for coordinating risk management and product quality development.

## Controlling Avian Flu and Protecting People's Livelihoods in the Mekong Region

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## Certification, Traceability, and Economic Incentives of for HPAI Control

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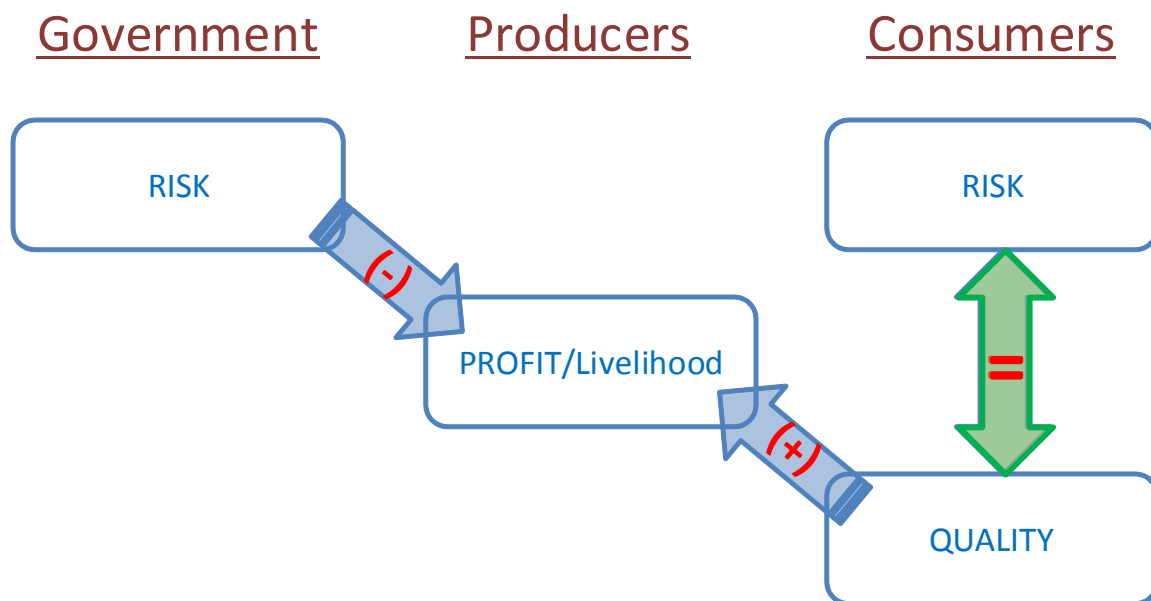
Highly pathogenic avian influenza (HPAI) associated with the H5N1 virus strain first occurred in Vietnam and Thailand in late 2003, causing severe mortality in affected flocks. Given that the virus has crossed the species barrier between poultry and humans and caused human fatalities, national governments and international agencies are intensively studying measures to control the spread of the disease. Among these strategic options would be 'restructuring' the poultry industry in ways that could threaten the livelihoods of smallholder backyard producers.

This note describes a pilot study for and alternative approach, promoting pro-poor H5N1 risk reduction by using the demand side of the poultry market to achieve higher food safety standards. In this way, smallholders contribute voluntarily to the global commons of disease prevention, improve their livelihoods, and displace costly and inefficient government intervention in disease surveillance and control. Modeled on organic, fair-trade, and other specialist product marketing strategies, this pilot is intended to combine risk management with product quality development, correcting for negative surveillance/control effects and opening the potential for private incentives to improve product quality and incomes for all participants in food value chains. The study is designed over a period of slightly less than 12 months starting in the fourth quarter of 2006.

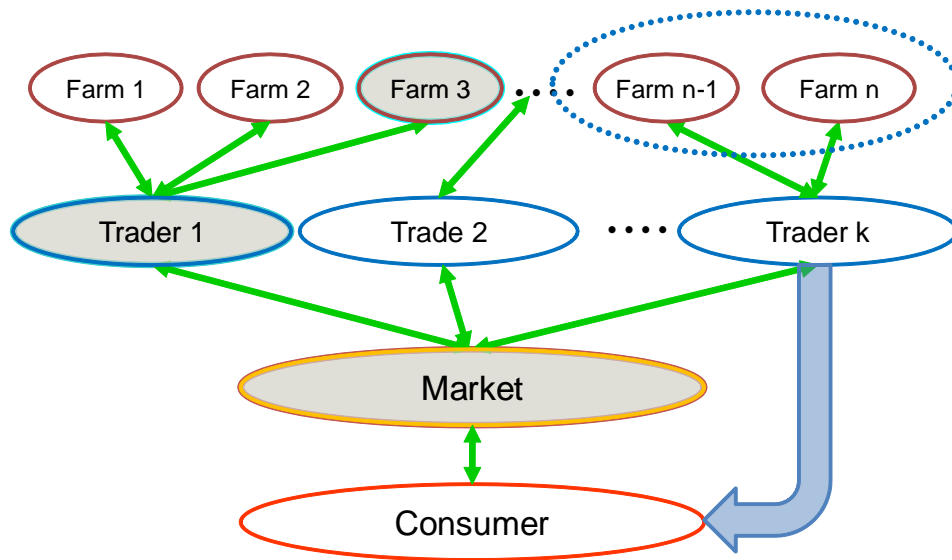
## Study Objective and Rationale

This pilot study aims to assess mechanisms designed to overcome serious incentive problems for product quality improvement, reducing disease and food safety risks while increasing smallholder incomes and reducing public expenditure for conventional surveillance and control measures. In particular, we want to explore the potential of the demand side of the poultry market to achieve higher food safety standards, thereby displacing costly and inefficient government intervention. The following figure summarizes the incentive problem. Producers see conventional government risk management practices as negatively impacting profit/livelihood, consumers see risk as a (negative) quality characteristic.

**Figure 1:** Stakeholder Economic Priorities



By providing capacity support to establish, maintain, and market food safety and other quality features, it is possible to promote compliance and even self-finance of SPS measures. This is the norm in OECD agricultural production, but to accomplish it in Viet Nam requires that the supply chain be reconfigured to promote quality recognition. As the following figure illustrates, the current system of live trading mixes bird stocks from different producers. In this way a single sub-standard operation (gray highlighting) can compromise the safety of other stocks and entire markets. In an environment of uncertainty, this leads to moral hazard, strong adverse selection, and disincentives for quality improvement. Because farmers who produce above-average quality birds cannot be identified, their product will be undervalued in such a market. To correct for this, the pilot program will develop dedicated supply channels for certified producers.

**Figure 2:** Poultry Supply Chain

Modelled on organic, fair-trade, and other specialist product strategies, this pilot is intended to combine risk management with product quality development, correcting for negative surveillance/control effects and opening the potential for private incentives to improve product quality. Bird varieties that can command premium prices will be targeted initially to establish this precedent.

It is important to emphasize that this approach, if successful, addresses not only the HPAI risk issue, but three larger priorities for the Government of Viet Nam. Conceptually, the pilot will be situated at the intersection of economy-wide goals: Public Health Enhancement, Privatization, and Trade Policy as reflected in WTO global and bilateral SPS standards.

## Materials and Methods

The poultry supply chains for small commercial farms (<2,000 birds) in Northern Viet Nam have been characterized by Tung, 2005. At present markets of inner districts of Ha Noi are not allowed to sell live poultry. It is estimated that around 60 to 100,000 birds are marketed daily in the five outer city districts. We assume that between 30 to 40 percent of these birds pass through the Ha Vi wholesale market in Ha Tay province before making their way to the smaller live bird markets of the outer districts or to restaurants in Ha Noi. The Ha Vi market is currently the largest poultry wholesale market of Northern Viet Nam, also is being targeted by a project funded by the World Bank, which is due to start in March 2007.

### Part I - Survey of Poultry Traders

Market inspectors and bird sellers coming to the selected markets will be given incentives to anonymously complete a questionnaire which is intended to capture detailed information on the origins of their bird consignments. At the producer level, questionnaires will elicit basic household economic data on assets, expenditure, production systems, and income. At the market level, data on product varieties and prices at each stage of the supply chain will be

collected. We will be targeting mainly markets in the outer city districts as well as the Hi Vi market.

The information collected through the questionnaire survey will be used as baseline data for implementation of Part II of the study. In detail, the outputs from the survey will allow the prioritization of resources for implementation of Part II in terms of communes and sample size. The survey will also provide detailed information of the key actors involved in the supply chain of live poultry to markets around Ha Noi.

## **Part II - Tracing of Individual Birds**

We aim to tag individual birds at selected small commercial chicken farms (<2,000 head) and identify the arrival of birds at the selected markets. The rationale for tagging birds individually at the farms of origin lies on the fact that a consignment of live birds brought by a poultry trader to the market may be constituted by birds from different origins. Under these conditions, considering a batch as a unit would lose track of the origin of individual birds as these are mixed on their way to the live bird market.

Bird tagging will be done with a cost effective technology that permits individual animal identification at any stage of the supply chain. Birds will be tagged by the farm owner just prior to their departure from the farm. Tags will be scanned and recorded at randomly selected markets in rural districts around Ha Noi and at the Ha Vi wholesale market in Ha Tay province, using local market inspectors. We expect to capture 5 to 25 percent of tagged birds; the uncertainty around the expected recovery estimate will be taken into account for sample size calculations.

The main objective of Part II is to assess the feasibility of establishing a tracing system based on individual birds in the context of Vietnamese poultry market chain. We expect that markets that receive birds through a smaller number of intermediaries will have an increased number of tagged birds entering through their gates as the opportunity for an initial batch to be fragmented would be lower and that these markets are located in districts further away from the wholesale markets. Routine implementation of such a traceability system would have very advantageous implications in disease control operations as it would enable tracing the origin of birds backward from any stage of the supply chain.

## **Part III Establishing a Certified Supply Chain**

Using a subset of the producers in Part II, a second round of tracing will be implemented over dedicated market channels to assess the potential for coordinating risk management with product quality development. In particular, selected producers will be given support in three forms:

1. On-farm certification of product safety
2. Dedicated market channels to final retailers or processors, isolating their birds from downstream infection and other stock mixing risk

3. Marketing support, including local producer group development, packaging/branding support, supply chain negotiation, and consumer advertising of product characteristics

Over a four-month implementation period, prices at all stages of the supply chain will be continuously monitored, with the expected result that consumers will perceive quality and pay a premium for birds from the control population.

Birds in this component will be marketed through dedicated channels, which may or may not include traditional market venues. In the latter case, these birds will be fully isolated and marketed with their own branding. In other cases, birds will be sold to downstream retailers and processors as a result of negotiated supply agreements developed in the marketing component of the project.

This part of the pilot project aims to achieve risk reduction and higher individual valuation of birds in the supply chain, particularly at the farm gate. Moreover, if valuations are high enough, there is potential for costs of the risk reduction strategy to be privatized. Ultimately, the success of this component depends on the degrees to which it improves both SPS conformity and farm balance sheets. Its incentive properties have been designed to achieve both, but the degrees will be an empirical matter. We also hope the results of this project will provide general implications and standards for extension to other markets, regions, and even other agricultural products.