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## Key Findings

- A significant amount of HPAI risk arises from information failures and incentive failures in poultry supply chains.
- Product certification is a systemic remedy that can be used to create virtuous quality cycles, combining risk reduction with higher product value along supply chains of low income market participants.
- On the basis of a pilot project, we recommend that the Government of Viet Nam and other Mekong countries evaluate comparable national certification schemes.



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

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## Smallholder Poultry Certification for Pro-Poor HPAI Risk Reduction

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Highly pathogenic avian influenza (HPAI) associated with the H5N1 virus strain first occurred in Viet Nam 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 severely affect the livelihoods of smallholder backyard producers.

This brief describes a pilot study for an alternative approach carried out in Northern Viet Nam: promoting pro-poor H5N1 risk reduction by using the demand-side of the poultry market to achieve higher food safety standards. Through this approach, market-oriented smallholders contribute voluntarily to the global commons of disease prevention, improve their livelihoods, and replace costly government intervention in disease surveillance and control. Modelled on organic, fair-trade, and other specialist product marketing strategies, this pilot combined risk management with product quality development, opening the potential for private incentives to improve product quality and incomes for all participants in poultry value chains.

It is important to emphasize that this approach not only addresses HPAI risk, but three larger priorities for the Government of Viet Nam. Conceptually, the pilot was situated at the intersection of economy-wide goals: Public Health Enhancement, Privatization, and Trade Policy as reflected in national and international SPS standards. Two general categories of policy recommendations can be

derived. The first relates to the scaling up of branding and traceability programmes, and the second to demand-related issues that have implications for HPAI risk management policies.

## Rationale and Motivation

In Viet Nam, demand for safe and high quality poultry has a largely untapped potential to contribute to both farm-level biosecurity (and hence disease risk reduction) and rural incomes. Consumer perceptions of quality in poultry refer to both meat texture and flavour. These features translate into demand for local and crossbred chickens, which cost about 50 to 100 percent more than 'industrial' chicken, i.e. broilers and to some extent spent hens.

The market for local and cross-bred, safety-guaranteed chickens is however undeveloped. Supply chains for local and crossbred chickens generally consist of small players that have established relationship with buyers, sellers and traders, as well as wholesalers and slaughterhouses. The major building blocks of a certified supply chain thus already exist, but the players are not linked in a way that can be used to credibly communicate product safety and quality attributes to consumers.

In Viet Nam, as elsewhere, smallholders face significant information failures that limit their incentives for investment in animal health and other product quality characteristics. These arise, for example, because intermediaries transfer birds, breaking the bond of product identity between farmers and consumers. Given individual producers cannot be identified with quality products, the incentive to invest in them is limited. However, when certification schemes transparently and reliably establish product origins, investments will be made to capture value premia. Even smallholders will borrow to make these investments if they have reasonable assurance of capturing such premia.

## Project Activities

Most project activities took place in the mainly agricultural district of Dong Anh close to Hanoi. The district hosts several food markets and the pilot study consisted in establishing a certified poultry supply chain, a household survey, and an economic experiment.

The pilot targeted markets in the outer districts of Ha Noi, as well as the large Hi Vi wholesale market. A questionnaire survey provided detailed information about the dynamics and key actors in the local live poultry supply chain. Another component of the study assessed the feasibility of establishing a private certification system for individual birds in the Hanoi poultry value chain. Farm selection criteria were supply capacity and biosecurity practices.

A total of 35 small-scale farms with an average of 100 birds per farm participated in the study. Weekly visits were carried out by veterinary officials to monitor compliance and hygiene standards. All chickens were tagged at feet or wings for traceability and marketing purposes before going to market. Partnering slaughterhouses processed project birds for distribution through their vendor networks. Incoming and outgoing birds were inspected and certified by local veterinary authorities.

Eight vendors were recruited at four different markets. These vendors received posters, leaflets, decorations, shirts and aprons. Bird packaging and bags displayed project logo and slogan. Vendors pushed sales after receiving training on the advantages of safety-guaranteed chickens and recorded prices at different times.

In 800 surveys, households were asked about their purchasing behaviours, attitudes and other characteristics that impact chicken consumption choices. Demographic information was also collected. To fine tune survey findings, an economic experiment was conducted to observe actual choices and to control for conditions under which those choices are made. Welfare economics was used to calculate compensating variations between project and non-project chickens, which roughly resembles a safety premium.

## Findings and Outcomes

Our general findings suggest that certification and traceability can promote virtuous quality cycles that combine risk reduction with higher product value and incomes along supply chains of low income market participants, including smallholder farmers, individual traders, and market vendors.

One of the main outcomes of the study was significantly better understanding on how existing institutions and stakeholders can work dynamically towards the establishment of traceable supply chains. It became evident that trust, reliability, credit, conflict resolution, and contract enforcement are main components of these relationships.

Our consumer survey reveals that households consume more than one type of meat or seafood daily, and that pork, beef, and fish dominate as protein sources. Not surprisingly, over half of respondents report never visiting a supermarket, whereas nine out of ten are located within 15 minutes of a wet market. These wet markets sell live and whole fresh local chickens, while supermarkets sell frozen birds and fresh cuts of industrial chickens. Half the respondents had not heard of 'safety-branded' chickens. Close to two-fifths of respondents regularly buy chickens that have government certification stamps, but they do not see these as a credible certification. Also, live birds are cheaper than slaughtered ones and are preferred because customers can determine their quality and health. Regarding attitudes and beliefs, the main concern expressed by consumers was wet market and slaughterhouse hygiene. Households who do not purchase safety-branded chickens (i.e. the majority) report taste-related uncertainties as their most salient concern. When asked about trustworthiness, they reveal that stamping market inspectors have the lowest level of trust, while international companies and regular market sellers have the highest level. Lastly, experimental methods validated household preferences for taste-related factors of local chickens, but also indicate that branding and traceability have an important role in household food purchase decision-making processes and suggest households would be willing to pay a premium of about 10,000 VND (US\$ 0.63), equivalent to about 15% above the price of equivalent chicken types for safety-branded chickens sold in wet markets.

Vendors reported consumer product acceptance but also mistrust; some vendors claimed that selling safe chickens differentiated them and extended their client base. The tags introduced by the project were popular among clients and exemplify a simple innovation

that improves traceability. Vendors were able to charge higher premiums for branded project chickens marketed as local breeds, but less when marketed as crossbred chickens. Crossbred project chickens sold for 9,000 to 14,000 VND (US\$0.56 to US\$0.88) less than typical indigenous chickens, but still at significantly higher prices than non-branded crossbred (or industrial) chickens. Altogether, our calculations estimate safety-branded chickens to sell at an average premium of 10,000 VND (0.63) per head. In our experimental program, this premium is sufficient to cover all expenses incurred in for certification, branding, and a modest profit.

## Guidelines for Certified Poultry Supply Chains

Experiences gained through implementation of this project and other work done in Viet Nam have implications for managing costs in certified poultry supply chains. Because this project was a short-term pilot/demonstration project, costs from this project alone are not appropriate for evaluation of the cost effectiveness of certified poultry supply chains. The actual cost effectiveness of any certified supply chain will vary based on local market conditions, feed costs, distance to markets, etc.

Nevertheless, this pilot study could serve as a basis for scaling up and expanding branding and traceability programmes nationwide. To begin with, cooperation with farming groups that currently mandate or promote safe production practices can also help recruit farmers already interested in doing so, especially those with free-grazing chicken production systems that are so important for maintaining meat quality (taste - texture) perceptions. Further, access to information and technology valuable to smallholder farmers could increase their participation. On the financing front, tailored credits would aid with the high upfront investment costs in advertising and quality product assurances that could lead to established brands or labels which in the long run have relatively low costs to maintain. Professional training is also important, especially for product certification and enforcement of standards by veterinarians and technicians. Similarly, education on contract drafting and conflict resolution to producers, traders and vendors is relevant. Local officials should be informed of the potential socio-economic benefits of certified supply chains, and made aware that successful marketing strategies for traceable chickens rely on establishing trust, uniqueness, and good taste. The government should play a critically positive role by nurturing a supportive policy environment for firms to work with smallholder farmers to establish successful projects, and these could include: strengthening of veterinary institutions, providing intellectual property protection, supporting development of third-party labelling or branding programs, improving existing market infrastructures, and developing small wholesale markets with registered slaughterhouse facilities in strategic urban locations. In conclusion, it is clear that consumers assign high valuations to safety and traceability, and these are willing to pay if their requirements are met.

On the basis of this pilot project, it can be recommended that the Government of Viet Nam consider scaling up this activity to the national level.

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