



## Farm Gate Trade Patterns and Trade at Live Poultry Markets Supplying Ha Noi: Results of a Rapid Rural Appraisal

R. Soares Magalhaes, H.D. Quoc and L.T. Kim Lan

### 1. Introduction

Several waves of HPAI caused by the H5N1 strain have swept through Viet Nam over the past three years and Vietnamese authorities have plans to restructure the poultry industry. These plans are costly, likely to have negative impacts on smallholder producers and will not necessarily achieve the desired objective of eliminating HPAI from Viet Nam. As an alternative, FAO's PPLPI 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 often inefficient government intervention.

Here we briefly describe the main activities and initial findings of two studies that looked at (1) the pattern of farm gate trade, and (2) the trade pattern of the main live bird markets around Ha Noi. The overall objective of these studies was to obtain background information required for the planning of a feasibility study of establishing certified smallholder poultry value chains to supply poultry consumers of Ha Noi with safe poultry.

### 2. Materials and Methods

**Farm gate trade:** To obtain information on patterns of farm gate trade 21 commercial smallholder poultry farmers ('Sector 3') from Phu Xuyen district (Ha Tay province), having among

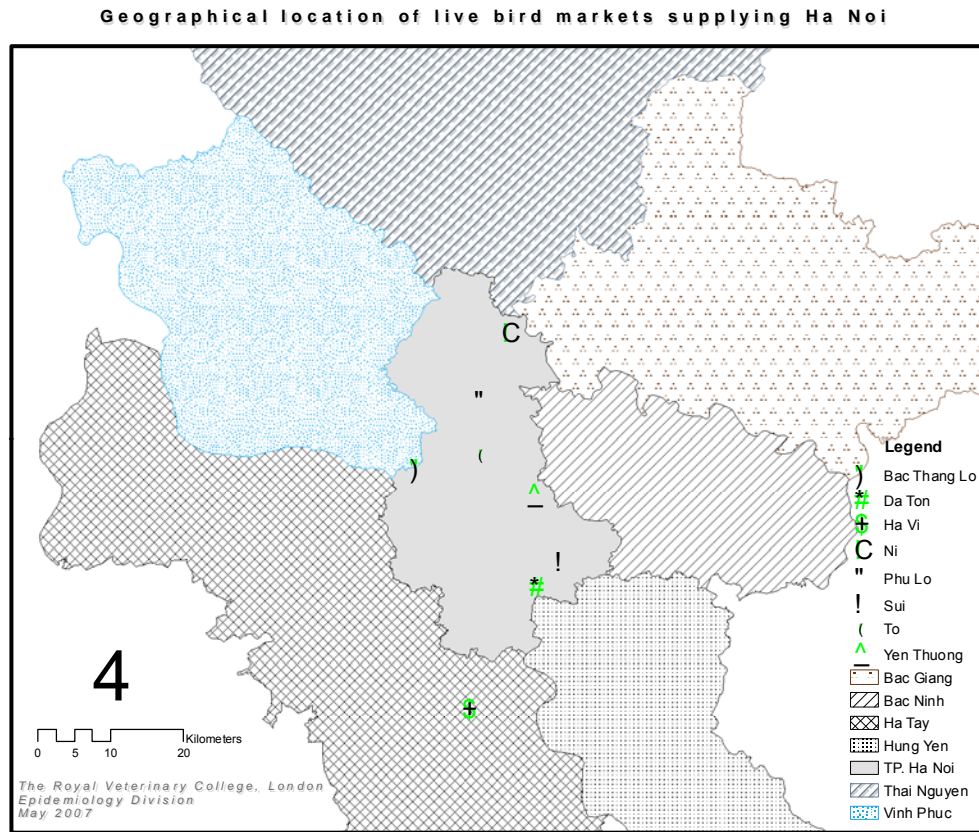
the largest poultry populations in North Viet Nam, were enrolled in the study. Phu Xuyen is situated in close proximity to Thuong Tin district, in which the largest live poultry wholesale market, Ha Vi, is located and thus is an important source of supply for this market.

Information was collected through individual interviews and group discussions with all farmers. The interviews followed a structured questionnaire, which covered trade in unfinished poultry, as well as trade in finished poultry. For each type of trade farmers were interviewed individually on: (i) species and type of poultry traded, (ii) seasonal frequency of trade and (iii) seasonal variation in destinations. After analysis of the individual questionnaires, the farmers were grouped according to their current poultry farm type (i.e. chicken farmer, duck farmer, muscovy duck farmer) and group discussions on the seasonal variation of their farm gate poultry prices were held.

**Market trade:** All ten markets currently authorized to trade live poultry in the outer districts of Ha Noi and the largest poultry wholesale market in the north of Viet Nam (Figure 1), Ha Vi market, located in a district south of Ha Noi, in Ha Tay province were covered by the study to obtain an overview of the trade pattern of the main live bird markets around Ha Noi.

A set of Rapid Rural Appraisals (RRA) was conducted at each of the markets to obtain baseline information regarding the trade activities of all live poultry traders operating at each market. This information was collected by the market inspector (employed by the sub-Department of Animal Health), through individual interview of all traders present in a given market.

**Figure 1** The geographical location of the 11 markets supplying the Ha Noi province and the largest wholesale market of the Northern Viet Nam, the Ha Vi Market.



### 3. Patterns of Farm Gate Trade in Poultry

#### Farms enrolled in the study

The characteristics of the 21 farms that have enrolled in the study are summarized in Table 1.

**Table 1:** Number and characteristics of the 21 smallholder poultry farms enrolled in the study

FLOCK COMPOSITION / SIZE	DUCK	CHI-CKEN	MUS-COVY DUCK	DUCK + CHICKEN	MIXED FLOCKS	
					DUCK + MUSCOVY	CHICKEN + MUSCOVY
No. of farms	6	5	1	7	1	1
Flock size group						
100-249	2	5	-	-	-	-
250-499	1	-	1	2	-	-
500-999	3	-	-	3	-	1
≥ 1,000	-	-	-	2	1	-

## Poultry types and destinations

The farmers reported that they sell poultry at different stages of their production cycle. Our results indicate that the sale of unfinished birds is not uncommon with 15 of the 21 farmers (72%) indicating they sell unfinished birds. Only 2 of the 5 farmers rearing 'chicken only' mentioned that they sold unfinished birds. Trade in unfinished birds in 'duck only' (n=7) and in 'mixed duck and chicken' (n=9) farms is primarily through sale of duck eggs, day-old-chicks, growing ducks and growing chicken. Three out of the nine mixed flocks mentioned they all also traded slaughtered birds.

In terms of buyers of finished and unfinished poultry from the farm gate, all farmers stated that these were either sold to traders, to other farmers in the vicinity and to family members with varying shares and frequency depending on the season. When asked if they knew what the buyers would do with the poultry, their answers included (i) sale at markets, (ii) sale to other traders, (iii) sale at slaughter houses, and (iv) taken to the buyers home. The possible destinations of finished and unfinished poultry by farm type are summarized in Table 2.

**Table 2:** Destinations of poultry types traded by 21 farmers enrolled in the study

SOLD TO	TAKES TO	UNFINISHED			FINISHED		
		DUCK FARM	CHICKEN FARM	MIXED D&C FARM	DUCK FARM	CHICKEN FARM	MIXED D&C FARM
Family	Home	2	1	1	1	3	4
	Market	1			2		1
	Trader	3		1			
Farmer	Home	2		1	1	2	3
	Market	1			1	1	2
	Trader	2		1	1	2	1
Trader	Home	2		1	2	1	3
	Market	1			2		1
	Trader	1		1	1		1

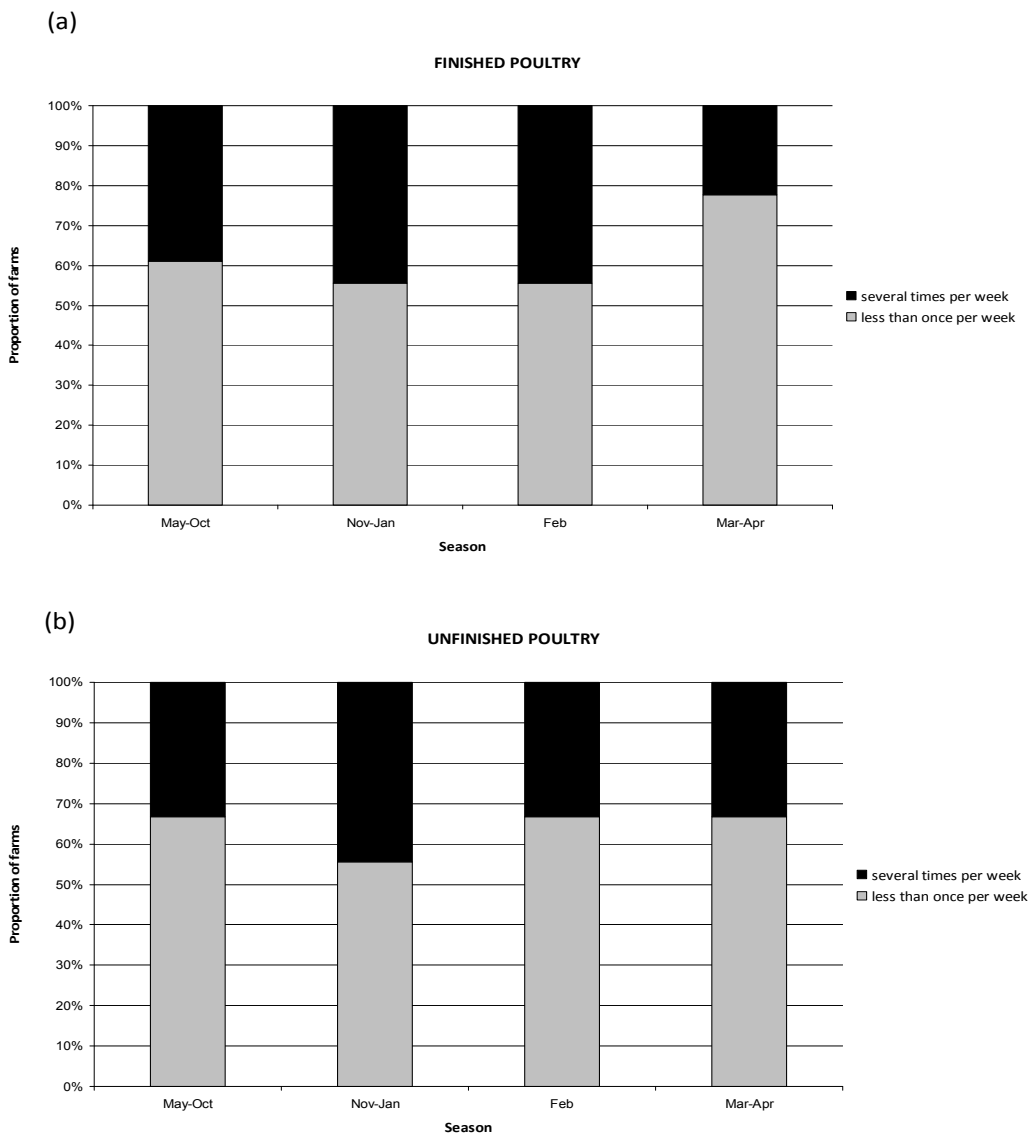
Our results indicate that unfinished poultry are equally likely to be sold to traders, farmers or given to family members. In the case of 'duck only' and 'mixed duck and chicken' farms, the buyers of unfinished birds often seem to act as intermediaries selling unfinished birds to another trader and/or at the market. For finished birds it seems that in 'duck only' farms the majority of farm gate trade is with traders, while in 'chicken only' farms it is with other farmers which eventually channel poultry to their own home and/or to another trader. In general, direct trade with markets is more frequently reported in 'duck only' farms. When 'trade' is with family

members these normally tend to take the finished poultry to their own homes and less frequently to markets (as is the case of ‘duck only’ and ‘mixed duck & chicken’ farms).

### Seasonal frequency of poultry trade

Overall, the results obtained suggest that the period when the frequency of farm gate poultry trade is highest is before and during the ‘Tet’<sup>1</sup> months, with ‘several sales per week’ increasing by 5 to 10% relative to the other months of the year (Figure 2).

**Figure 2:** Frequency in farm gate trade of (a) finished poultry and (b) unfinished poultry in all flock types at different times of the year



<sup>1</sup> Tet festival is the biggest holiday/celebration in Viet Nam; it is in early February.

For finished poultry, there is a sharp decrease in the frequency of farm gate sales (from 55% to 25%) in the two months after the 'Tet' festivities. Results concerning the farm gate trade of unfinished poultry (i.e. eggs, day-old birds or growing birds) indicate that this is not unusual and its frequency tends to vary across the year for different farm types. In addition, across the year, the proportion of farms reporting this type of movement several times per week never goes below 25%.

By farm type, our results show that the overall frequency of farm gate trade of unfinished poultry is increased in the three month period before 'Tet' for 'chicken only' and 'mixed duck and chicken' farms while it is stable across the year for 'duck only' farms.

On average, throughout the year, a commercial smallholder chicken farmer seems to trade unfinished birds less frequently than a duck farmer. For chicken farms, our results show that the movement frequency of unfinished chicken increases by 20% during a three month period (November-January) prior to 'Tet' (February). Throughout the rest of the year the frequency of farm gate trade is several times per week in 40% to 50% of farms with the remainder of farms trading at a frequency of once or less per week. Poultry farmers also state that day-old birds are traded between the farms. Some produce these themselves, but the majority of farmers buy them from others who always produce day old chicks.

### **Seasonal frequency of destinations of poultry types**

Our results suggest that the trade of unfinished birds to other farmers is not an uncommon event in 'duck only' and in 'mixed duck and chicken' farms. In these types of farms, trade in unfinished birds occurs with relatively uniform frequency across the year with a slight reduction 1-3 months before the 'Tet' festivities (Table 3). Trade between farmers is relatively less frequent than with traders and family members. For 'chicken only' farms, trade in unfinished birds is a rare event.

'Duck only' farms have a particularly intense movement of finished birds during the 'Tet' season (February), in which poultry are primarily going to traders and family members, while 'chicken only' and 'mixed duck and chicken' farms report slightly higher trade frequency in the 1-3 months prior to 'Tet', most of which involves other farmers and family members in the case of 'chicken only' farms and traders in the case of 'mixed duck and chicken' farms.

**Table 3:** Seasonal frequency of poultry trade by type of farm (n=21) and destination

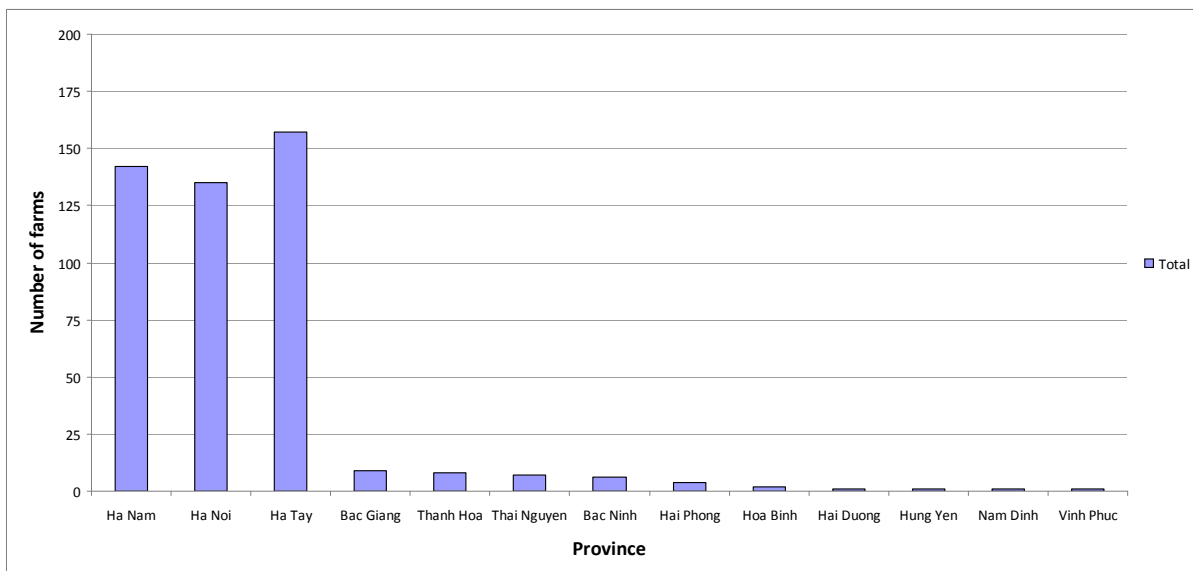
FARM TYPE	INTERMEDIARY	UNFINISHED				FINISHED			
		MAY-OCT	NOV-JAN	FEB	MAR-APR	MAY-OCT	NOV-JAN	FEB	MAR-APR
Duck (n=7)	Traders	3	3	3	3	1	2	3	2
	Farmers	2	1	2	2	1	1	1	1
	Family	4	2	4	4	2	2	3	2
Chicken (n=5)	Traders		1			1	1	1	
	Farmers					3	3	2	2
	Family		1	1	1	3	4	3	2
Mixed D&C (n=9)	Traders	2	3	2	2	4	5	4	4
	Farmers	2	1	2	2	2	3	3	2
	Family	1	1	1	1	3	3	3	2

## 4. Live Poultry Markets and Origin of Traded Poultry

### Characteristics of the catchment areas of the poultry markets

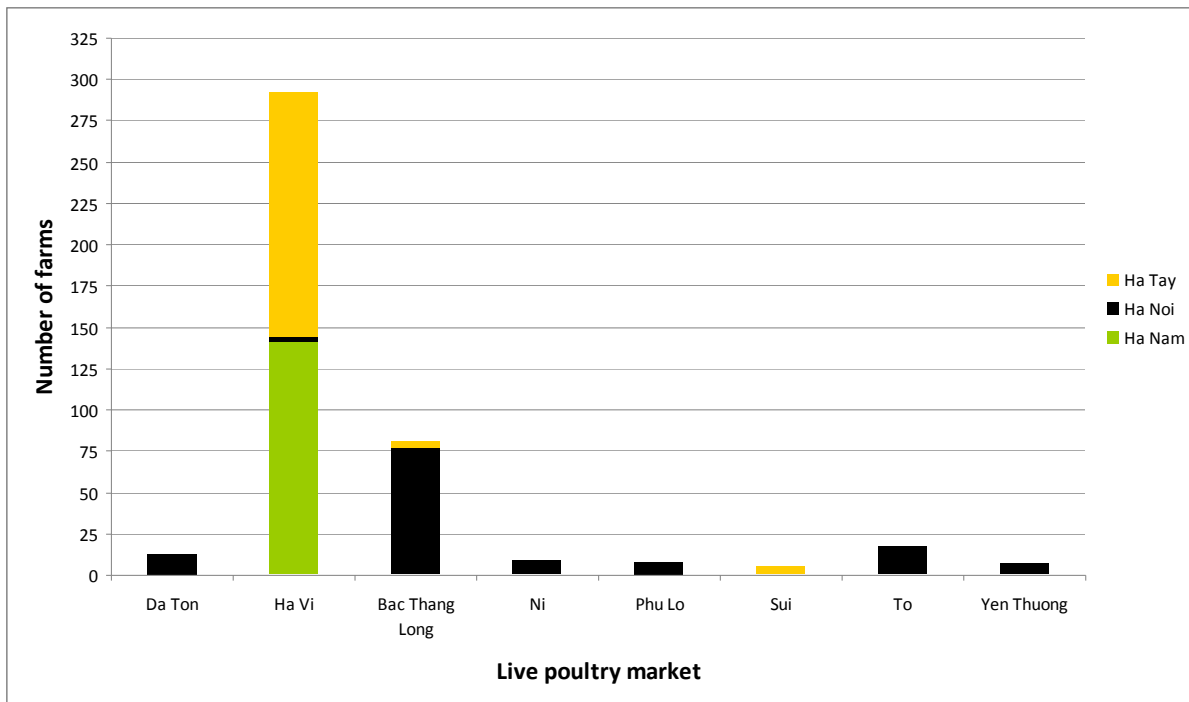
**Geography:** Eight of the eleven live poultry markets included in the study trade poultry from farms in three districts of Ha Noi province, seven districts of Ha Tay province, and seven districts of Ha Nam province (Figure 3).

**Figure 3:** Provinces and number of farms trading poultry at the study markets



Another ten provinces account for less than 10% of farms supplying the study markets. The origin of poultry traded in live poultry markets supplied by farms in the provinces of Ha Noi, Ha Tay and Ha Nam is summarized in Figure 4. Three markets (Ngu Tiep, Tan Trieu and Dong Ngac) do not serve those three provinces. Our results indicate that farms within the province of Ha Noi supply most of the poultry traded on the markets included in the study.

**Figure 4:** Number of farms from Ha Tay, Ha Noi and Ha Nam provinces supplying live poultry markets around Ha Noi.

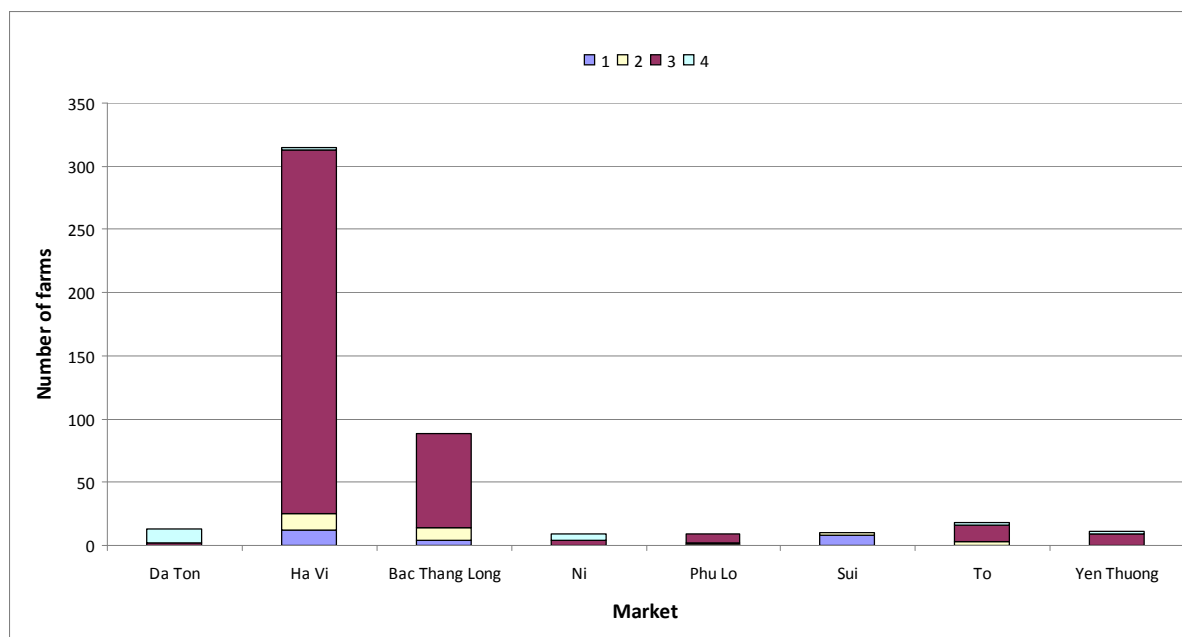


Farms from the provinces of Ha Tay and Ha Nam are responsible for most of the live poultry coming into Ha Vi wholesale market. From the eleven markets included in the study only the Ha Vi market receives poultry coming from the Ha Nam province. Furthermore, only a small proportion of farms sending poultry to this wholesale market are based in Ha Noi. Some farms in the province of Ha Tay send their poultry to the Bac Thang Long market and to the Sui market.

**Farm types:** The predominant flock size of poultry farms in Ha Tay, Ha Nam and Ha Noi supplying the studied live bird markets is between 100 - 2,000 birds (Sector 3) (Figure 5).

Larger farms (>2,000 birds) send their poultry to the largest markets such as Ha Vi and Bac Thang Long markets. Interestingly, traders interviewed at the Sui market report trading poultry originating exclusively from Sectors 1 and 2.

**Figure 5:** Number of farms by size of poultry originating from farms located in Ha Tay, Ha Nam and Ha Noi provinces (1=Sector 1; 2=Sector 2; 3=Sector 3; 4=Sector=4) by market.



A small number of farms with less than 99 birds (Sector 4) have been reported to trade in five markets (Table 3). The results in Table 3 indicate that the eight markets serving the three provinces of Ha Tay, Ha Nam and Ha Noi absorb birds from a total population of almost 400 Sector 3 farms, which corresponds to approximately 260,000 birds per year.

**Table 4:** Number of farms and respective total poultry population of study markets serving the provinces of Ha Tay, Ha Nam and Ha Noi (Sui market not in the list).

FLOCK SIZE	LIVE BIRD MARKET							TOTALS
	HA VI	DA TON	BAC THANG LONG	NI	PHU LO	TO	YEN THUONG	
<b>&gt;=10,000 birds (Sector 1)</b>								
NO. FARMS	12	-	4	-	1	-	-	17
TOTAL NO. POULTRY	132,000	-	67,000	-	50,000	-	-	249,000
<b>2,000-9,999 birds (Sector 2)</b>								
NO. FARMS	13	-	10	-	1	3	-	27
TOTAL NO. POULTRY	53,000	-	45,600	-	2,500	9,000	-	110,100
<b>100-1,999 birds (Sector 3)</b>								
NO. FARMS	288	2	75	4	7	13	9	398
TOTAL NO. POULTRY	172,400	700	73,950	620	6,050	3,990	2,670	260,380
<b>&lt;100 (Sector 4)</b>								
NO. FARMS	2	11	-	5	-	2	2	22
TOTAL NO. POULTRY	130	315	-	295	-	150	155	1,045

Table 4 summarizes the characteristics of Sector 3 farms trading poultry from six districts in Ha Tay, seven districts of Ha Nam and three districts of Ha Noi provinces at the study markets. A total of seven markets serve Sector 3 farms located in these three provinces (Sui market is apparently supplied exclusively by Sector 1 and 2 farms).

**Table 5:** Number of Sector 3 farms and total number of poultry reared, for farms located in Ha Tay, Ha Nam and Ha Noi and trading poultry at the study markets.

FARM TYPE	LIVE POULTRY MARKET						
	HA VI	DA TON	BAC THANG LONG	NI	PHU LO	TO	YEN THUONG
Local chicken (native)							
<i>No. farms</i>	2	-	-	-	1	-	5
<i>No. birds</i>	800	-	-	-	800	-	620
White chicken (commercial breed)							
<i>No. farms</i>	60	1	44	3	3	10	-
<i>No. birds</i>	40,350	500	46,950	500	2,300	3,090	-
Duck							
<i>No. farms</i>	29	1	-	-	-	3	-
<i>No. birds</i>	18,980	200	-	-	-	900	-
Muscovy duck							
<i>No. farms</i>	43	-	3	-	-	-	-
<i>No. birds</i>	16,300	-	1,200	-	-	-	-

Our results indicate that Ha Vi wholesale market serves all types of Sector 3 farms. In addition, chicken of commercial breeds are traded on most markets with the exception of Yen Thuong, where predominantly local chicken from Sector 3 farms are traded. Most markets receive poultry from at least two or more farm types with the exception of Ni and Yen Thuong markets, on which only one poultry type is traded.

## 5. Summary of Findings

### Trade in unfinished poultry

- In general, unfinished poultry are equally likely to be sold to traders at the farm gate, to other farmers or given to family members.
- Overall, frequency of farm gate trade of unfinished poultry is increased in the three month period before 'Tet' for 'chicken only' and 'mixed duck and chicken' farms while it is stable across the year for 'duck only' farms.

- For 'chicken only farms', our results show that the movement frequency of unfinished chicken increases by 20% during a three month period (November-January) prior to 'Tet' (February).
- The trade of unfinished birds in 'mixed duck and chicken' farms is more intense 1-3 months before the 'Tet' festivities and the primary intermediaries involved in these movements are poultry traders.

#### **Trade in finished poultry**

- For finished birds it seems that in 'duck only' farms the majority of farm gate trade is with traders, while in 'chicken only' farms it is with other farmers, which eventually channel poultry to their own home and/or to another trader.
- The period when the frequency of farm gate trade of finished poultry is highest is before and during the 'Tet' months, with 'several sales per week' increasing by 5 to 10% relative to the other months of the year.

#### **Sources of poultry to live bird markets supplying Ha Noi**

- Eight out of the eleven live poultry markets included in the study trade poultry from farms in three districts of Ha Noi province, seven districts of Ha Tay province, and seven districts of Ha Nam province.
- Ninety percent of farms supplying poultry traded in the markets around Ha Noi are located in three provinces: Ha Tay, Ha Nam and Ha Noi.
- A total of seven markets trade poultry originating from Sector 3 farms in Ha Tay, Ha Nam and Ha Noi province.
- Farms with between 100 - 2,000 birds (Sector 3) are the predominant farm type in Ha Tay, Ha Nam and Ha Noi supplying the live poultry markets around Ha Noi.
- Four Sector 3 farm types, producing white chicken (commercial breed), local chicken (native breed), ducks and muscovy ducks, supply poultry to the studied markets.
- In general, direct trade at markets is more frequently reported in 'duck only' farms than for the other types of farms.

## 6. Contacts and Disclaimer

These Research Reports have not been subject to independent peer review and constitute views of the authors only. For comments and / or additional information, please contact:

**Ricardo Soares Magalhaes**

Royal Veterinary College  
Epidemiology Division, Dpt. Veterinary Clinical Sciences  
Hawkshead Lane, North Mymms, Hatfield, Herts, AL9 7TA, UK  
E-mail: [rmagalhaes@rvc.ac.uk](mailto:rmagalhaes@rvc.ac.uk)

**Lai Thi Kim Lan**

Department of Animal Health  
15/78 Giai Phong street.,  
Phuong Mai Ward, Dong Da Dist.,  
Hanoi, Viet Nam  
Email: [laithikimlan@gmail.com](mailto:laithikimlan@gmail.com)

**Hoang Dinh Quoc**

Department of Animal Health  
15/78 Giai Phong street.,  
Phuong Mai Ward, Dong Da Dist.,  
Hanoi, Viet Nam  
Email: [hoangdquoc@gmail.com](mailto:hoangdquoc@gmail.com)

Or visit the PPLPI website at: [www.fao.org/ag/pplpi.html](http://www.fao.org/ag/pplpi.html)