

**Food and Agriculture Organization of the United Nations
Ministry of Agriculture and Rural Development**

**FUTURE OF POULTRY FARMERS IN VIET NAM
AFTER HPAI**



**A workshop held at
Horison Hotel, Hanoi, March 8-9, 2007**

Editors: A. McLeod (FAO) and F. Dolberg (Aarhus Univesity)



Consumer perceptions and reactions concerning AI

Muriel Figuié, CIRAD

Introduction

The highly pathogenic Avian Influenza (AI) virus, H5N1, was first reported in Viet Nam in late 2003. Although there is no scientific evidence for food-borne transmission, consumers' poultry demand has been deeply affected, contributing to domestic market shocks. The purpose of this presentation is to document Vietnamese consumers' perceptions of and reactions towards AI. The information presented here was collected from different consumers surveys (Fournier 2005, Figuié et al 2006) conducted from 2004 to 2006 (see figure 1) and presented in detail in table 1.

Figure 1. Time of consumer surveys

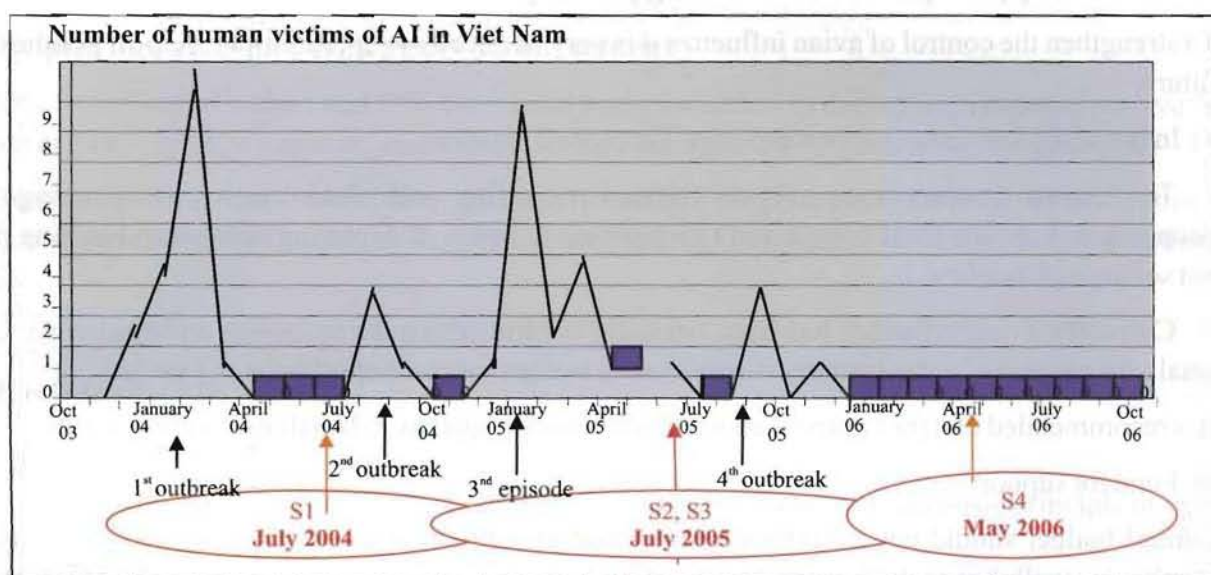


Table 1. Characteristics of the consumer surveys

<i>Tool</i>	<i>Sample size</i>	<i>Sample characteristics</i>	<i>Date and institutions</i>
Quantitative survey (S1)	214 people	People in charge of cooking and shopping for their households in Hanoi	July 2004 (CIRAD-AJC)
Focus group discussions (S2)	5 groups of 6-7 people	(1) People who no longer consume avian products; (2) people who have never stopped eating poultry; (3) "rich" consumers; (4) "poor" consumers; (5) young and old consumers.	July 2005 (CIRAD-Toulouse University)
In-depth interviews with consumers (S3)	22 people	People in charge of cooking and shopping for their households (mainly women between the age of 22 and 60). See Fournier (2005)	May-June 2005 (CIRAD-Toulouse University)
Quantitative survey (S4)	600 people	Mainly women (1) 300 in Ha Tay province, in the Red River Delta (rural respondents) (2) 300 in Hanoi (urban respondents)	May 2006 (FAO, CIRAD, AJC)

Background

Viet Nam is a poor country (ranking 117th in terms of GDP per capita) which has experienced significant socio-economic improvements over the past two decades, especially in urban areas. Food poverty fell considerably from 24.8 % in 1998 to 9.9 % in 2002 (3.9% in urban areas) (GSO, 2004). Consumers' diets are becoming more balanced and more diversified: meat consumption increased from 18.9 kg/cap/year in 1995 to 28.6 kg/cap/year in 2002 and chicken represents 18% of this amount (2.4 kg/cap/year in 1995 and 5.4 kg/cap/year in 2002 according to the Food Balance Sheets, FAO). AI has, then, affected a growing market.

Poultry is not just a foodstuff; it also has a symbolic function, being used for festive meals, in particular during the Lunar New Year festivals. Eggs are also commonly consumed (2.6 kg/cap/year) at any time of day and in many different forms (including fried eggs, embryo, preserved eggs, etc.).

Referring to the concept of the “edible order” (Fischler 1990), and as shown in table 2, we can see that all poultry products are considered edible (including the intestines, blood, etc.) (Fournier, 2005).

Table 2. The “edible order” regarding avian products in Viet Nam (S3, Fournier 2005)

	<i>Farm chicken</i>	<i>Industrial chicken</i>	<i>Duck</i>	<i>Muscovy duck and goose</i>	<i>Pigeon and quail</i>	<i>Small birds</i>
Carcass cuts (breast, leg, drumstick, wings,...)	X	X	X	X	X	X
Head	X	X	X	X	X	X
Foot	X	X	X	X	X	X
Intestine	X		X	X		
Liver	X		X	X		
Heart	X		X	X		
Gizzard	X		X	X		
Bones	X	X	X	X		
Eggs	X	X	X	X	X	
Embryo			X			
Preserved eggs			X			
Blood	X		X	X		
Tongue	X	X	X	X		

The AI crisis has had a profound impact on the poultry market. In Hanoi for example, since the beginning of the crisis, poultry sales have twice been completely prohibited in Hanoi: in February 2004 and in November-December 2005, periods during which Hanoi province was officially declared to be infected with AI. Since November 2005, breeding, selling and transporting live poultry have been forbidden in Hanoi and in other urban areas.

Price fluctuations have been quite significant, with periods of consumer “disillusionment” and periods of high demand, as witnessed during the Lunar New Year Festivals. The price of one kilo of industrial chicken sold on the Hanoi open-air market was 38,000 VND (2.1 euros) before the crisis (December 2003), 60,000 VND (3.3 euros) during the third outbreak (January 2005) and about 40-55,000 VND (less than 3.0 euros) in the last quarter of 2005.



AI has also affected the prices of poultry substitutes and, according to the Vietnamese Ministry of Finance, is officially considered to be partly responsible for the increase in the consumer price index over the past two years (8.4% in 2005).

Main Results

A large proportion of Vietnamese consumers see AI as a food-related risk

For a large proportion of consumers, AI is seen as a food-related risk. Indeed, in 2004 (see table 3):

- ✓ 97% of the respondents believed that AI can be transmitted to humans through contact with sick animals.
- ✓ 45% believed that AI might be a food-related risk
- ✓ and 30% believed that contamination from human to human is possible.

Table 3. Avian influenza (AI) transmission to humans according to Hanoi consumers (Hanoi, July 2004, n=214, S1)

<i>Number (and %) of respondents</i>	<i>Yes (%)</i>	<i>No (%)</i>	<i>Do not know (%)</i>	<i>Total answer</i>
Transmitted from human to human	65 (30.5)	116 (54.5)	32 (15)	213
Transmitted by eating poultry	98 (46)	105 (49.3)	10 (4.7)	213
Transmitted by eating eggs	90 (42.3)	112 (52.6)	11(5.1)	213
Transmitted by contact with sick Animal	206 (96.7)	3 (1.4)	4 (1.9)	213

Question: In your opinion, how can avian influenza be transmitted to people?

This is confirmed by an assessment of the impact of the different recommendations issued during the information and education campaign carried out in 2006 (Figuié and al 2006): the two following recommendations: “*cook poultry meat thoroughly*” and “*do not eat blood pudding*” displayed the highest level of agreement from the population (98% totally agree with these recommendations).

However, the qualitative survey conducted in 2005 also shows that, although consumers were particularly afraid of possible contamination from unsafe poultry consumption at the beginning of the crisis, in 2005 they were also aware that contamination can occur when slaughtering or even handling unsafe carcasses, resulting in a fear of preparing and cooking poultry (Fournier 2005).

AI is seen as a risk that people can deal with

Nevertheless, consumers do not feel powerless with regard to AI. On the contrary AI is seen as a risk that people can deal with. In 2006, 56% of the 600 interviewees felt that they could protect themselves completely from AI, and nearly 30% felt capable of protecting themselves to some extent (see table 4).

Table 4. Perceived personal control over AI (May 2006, n=600, S4)

	Total (% in Hanoi and Ha Tay)
No need for protection because there is no risk	3.7%
No, I cannot do anything	1.3%
No, there is little that I can do	8.3%
Yes, I can control it to some extent	29.7%
Yes, I can protect myself completely	56.0%
Do not know, no answer	1.0%
Total (n)	600

They claim they can protect themselves by means of their method of selecting and preparing poultry (table 5). Even in 2004, respondents felt quite capable of choosing safe poultry. Indeed, a large proportion of them (40%) claimed that they were able to identify a live animal infected with AI (table 5), although this figure fell to only 17% for an animal that had already been slaughtered. This might explain why consumers tended to continue buying live animals rather than slaughtered ones in the absence of reliable quality signs, veterinary stamps or other safety guarantees.

Table 5. Consumers' assessment of their own ability to identify poultry infected with Avian Influenza (Hanoi, July 2004, n= 213, S1)

Number (and %) of respondents	Certainly (%)	Not sure (%)	Cannot (%)	No answer (%)
I can identify an infected live animal	91 (42.7)	70 (32.9)	51 (23.9)	1 (0.5)
I can identify an infected slaughtered animal	37 (17.4)	56 (26.3)	118 (55.4)	2 (0.9)

Question: Do you think that you can identify live/slaughtered poultry infected with Avian Influenza?

AI has had a significant impact on poultry consumption

The impact of Avian Influenza on poultry consumption can be assessed by means of 3 indicators: the number of poultry consumers, the frequency of poultry consumption and the quantity of poultry foodstuff consumed.

Hanoi consumers reacted very quickly and strongly to the epizootic. 74% of them stopped eating poultry before sales were prohibited in February 2004 and 90% of them declared that they did so because of their fear of AI. Indeed, according to poultry traders, most traders had to stop selling poultry in January 2004 because of falling demand, before being formally obliged to do so by the authorities. However, in July 2004, only 6.5% no longer ate poultry. Most of the others began to eat poultry again after April 2004, but 62% no longer ate the same quantity as they did before the epizootic. The survey conducted in May 2006 (S4) shows the same percentage of people who used to consume poultry before the crisis and who do not anymore.

This trend is in line with typical reactions to food scares and with the consumer behaviour pattern described by Beardsworth and Keil (1997):

(1) an initial equilibrium state in which the public is largely unaware of or unconcerned by the potential risk factor; (2) initial information and sensitization of the public concerning the potential new risk; (3)



an increasing interest in public debate and the media with regard to this new potential risk and increasing public concern; (4) first public response, with consumers generally avoiding the foodstuff in question (sometimes disproportionately to the actual risk); and (5) fading public concern creating a new equilibrium state characterized by chronic low-level anxiety, which may give rise to a resurgence of the issue at a later date.

We are currently in the last phase, characterized by a chronic, low-level of anxiety. The impact of AI in terms of the number of consumers is quite limited. If, however, there were more human deaths or further convincing evidence of contamination through eating food were to come to light, the number of non-consumers would probably increase quickly.

The impact of AI on poultry consumption is more visible in terms of the frequency of consumption (figure 2) and of the quantity consumed.

Whereas around 60% of the population used to consume poultry several times a week in 2003, the highest percentage in 2006 corresponded to consumption a few times a month.

The impact is even more marked with regard to the quantity consumed. In 2006, more than half of the rural respondents (Ha Tay) declared that they consume the same quantity of poultry as they did before the crisis (in 2003), whereas this figure falls to only 13% in Hanoi. Some rural consumers have even increased their consumption because they are experiencing difficulties in marketing their own produce (table 6).

On average, this results in a decrease of nearly 50% in Hanoi and 20% in rural areas.

Figure 2. Frequency of poultry consumption in Hanoi in 2003 and 2006 (Hanoi, N=300, S4)

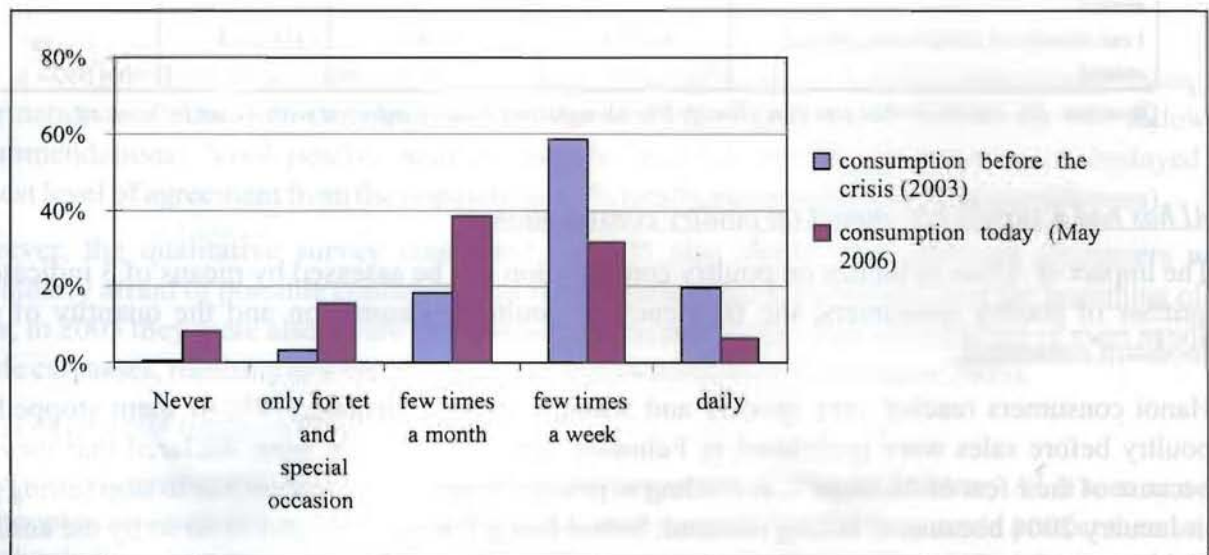


Table 6. Frequency of poultry consumption (May 2006, in Hanoi and Ha Tay province, n=600, S4)

<i>% of respondents (consumption in May 2006 compared to 2003)</i>	<i>Hanoi (n= 298)</i>	<i>Ha Tay (n= 297)</i>	<i>Total sample (n= 595)</i>
No change	13.1%	52.9%	32.9%
Decrease around 20%	15.1%	10.8%	12.9%
around 50%	34.2%	15.5%	24.9%
around 70%	28.5%	9.8%	19.2%
100%	8.4%	4.4%	6.4%
Increase	0.7%	6.7%	3.7%
<i>Average decrease in quantity (all sample)</i>	<i>-53%</i>	<i>-21%</i>	<i>-35%</i>

If we consider Hanoi consumers to be representative of the urban population and Ha Tay consumers to be typical of the rural population, the global decrease in volume for the entire country would be nearly one third (74% of the Vietnamese population lives in rural areas and 26% in urban areas).

In terms of AI, blood, internal organs, liver and intestines are considered to be the most dangerous poultry products. The consumption of blood pudding decreased by 35% between 2003 and 2006 (Figuié 2006). Industrial chickens are also considered less safe (and less tasty) than poultry from small farms, as AI is associated with industrial breeding.

The products cited by consumers (S4) as being less dangerous include poultry from known farmers or relatives, backyard poultry and eggs.

Surprisingly, ducks are considered by some to be one of the most dangerous foodstuffs regarding AI, although other consumers view them as being one of the least dangerous

Methods of cooking poultry have also changed: a quarter of the consumers (S4) said they had changed since the outbreak of the epizootic from under-cooked chicken (tender and with a better taste), to well-cooked meat in order to avoid AI.

Substitution products

Stopping or reducing the consumption of avian products has led to substitution (table 7), mainly by pork, aquatic products and soya.

Table 7. Substitutes for avian products (Hanoi, July 2004, n=213, S1)

Number and % of respondents (n=213)	Yes (%)
Substitution with any product	207 (97.2)
pork	182 (85.4)
beef	108 (50.7)
aquatic products	160 (75.1)
soya	161 (75.6)
others	15 (7.0)

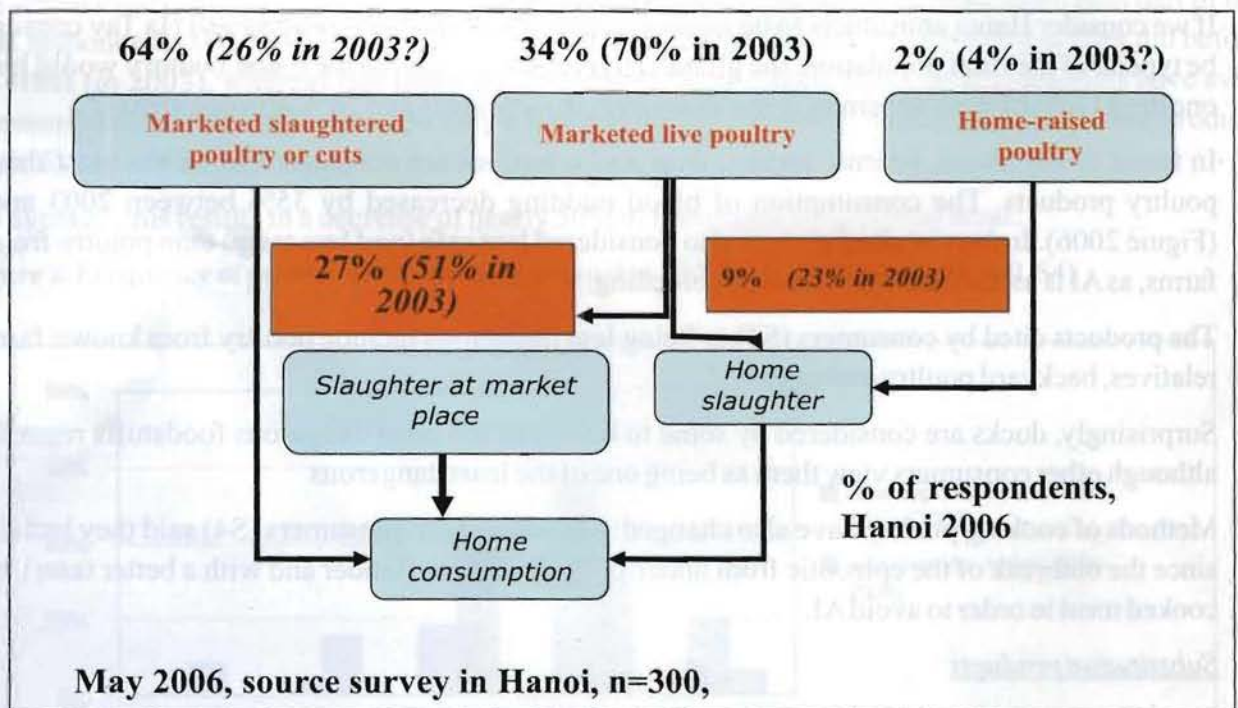
Question: If you reduced or stopped consumption of poultry at any time, did you replace it with any other product; if so, which ones? (many answers were possible)

Purchasing practices

The impact on purchases of live and slaughtered poultry can be seen not only in terms of products consumed, but also in the poultry purchasing practices.

In order to select good poultry, Vietnamese consumers would traditionally select a live animal by handling it, weighing it and touching the feathers; they feel capable of identifying a sick animal from the appearance of its comb, eyes, etc., no matter what the disease. However, as a consequence of AI, it is now forbidden to sell live poultry in cities and urban centres. For consumers, however, it has become even more important to see the live animal in order to ensure that it is not sick. This might explain why the share of people buying live poultry in Hanoi in 2006 has decreased in relation to 2003 (from 70% to 34%), but is still significant despite the ban (see figure 3). Moreover, as handling poultry is now considered to be a dangerous practice, proportionally more consumers than before ask traders to prepare the poultry for them (killing, cutting, etc.) in order to avoid touching the animal or its carcass.

Figure 3. Impact of AI on poultry slaughtering (2006 compared to 2003, S4)



We observe, then, a decrease in both the sale of live poultry and in slaughtering poultry at home, although the practices have not ceased altogether. To buy slaughtered poultry, consumers have to trust quality signs because they cannot judge for themselves the safety of the product (it is more difficult than with a live animal). They also have to trust the food chain, although our observations at the open-air market in Hanoi indicate that the cold chain is not yet reliable.

Buying at a supermarket is also considered by consumers as a way of purchasing safe poultry. Indeed a very large proportion of consumers consider poultry sold in supermarkets to be safe, although they admit that supermarkets mainly sell industrial poultry which they consider more likely to be affected by AI and which they find much less tasty than backyard poultry (see above). And survey 4 showed that more consumers are buying poultry products in supermarkets in 2006 than before: in 2006, in Hanoi, 43% of the respondents purchase poultry or eggs in a supermarket at least once a month, compared to

16% in 2003.

There is a degree of over-confidence in the safety of products sold in supermarkets which also exists for other products such as vegetables (Mayer, 2006). However, no objective data is currently available to confirm a possible difference in the quality of the products sold on markets and in supermarkets. At present, supermarkets represent a small share of the Vietnamese food market (5% of the urban food market, Figuié et al in Moustier 2005): in Hanoi only rich consumers can afford to purchase food in supermarkets due to high prices and lack of proximity, although the situation is quite different in Ho Chi Minh City. Industrial chickens sold in supermarkets are 10,000 VND/kg more expensive than the same kind of chicken sold at an open air market.

Another alternative is to purchase backyard poultry of known origin. This is not only considered to be just as safe but also more tasty. In this way, consumers purchase poultry from known farmers or from their own village, possibly from their own family or their family's neighbours. Developing a close relationship with a regular retailer is another option.

Conclusion

Consumers' fears of poultry products at peak crisis times may have contributed to limiting poultry markets, and consequently the transport of poultry, more than the implementation of regulations and government controls. Although their reaction has been excessive, it has to some extent contributed to controlling AI.

With a view to lessening market shocks in the wake of the crisis while maintaining the priority of consumer safety, some recommendations can be formulated:

- ✓ Risk communication should not over-emphasize AI as a food-related risk.
- ✓ In the short term, as numerous live birds are still slaughtered in Hanoi market places, facilities should be provided for safe slaughter.
- ✓ Shifting from the sale of live poultry to the sale of slaughtered poultry in urban markets is one of the main objectives of AI risk managers. Nevertheless, this shift cannot be achieved simply by banning live poultry in urban markets. There is a need to gain the consumers' trust with regard to slaughtered poultry. New regulations applying to the different stages of the commodity chain (farm, abattoir, transport, outlets, etc.) will not be sufficient. There is also a need to support the coordination of the different stakeholders in the commodity chain with regard to quality management objectives.
- ✓ As consumers are not willing to sacrifice the taste quality of poultry products in favour of the health quality of these products, there is a need in the quality management process to consider quality as a whole. This provides an opportunity for the poultry production of small-scale farmers, which is judged by consumers to be both tasty and safe.
- ✓ Reliable safe distribution channels should be promoted with reliable quality signs accessible to small-scale poultry producers. Otherwise, a market recovery will mainly benefit supermarkets and large-scale farmers capable of supplying supermarkets.

References

Fischler C., (1990), *L'omnivore*, Paris, Odile Jacob, 440p.

Fournier T., (2005), *Perceptions d'un risque sanitaire par les consommateurs, l'exemple de la grippe aviaire à Hanoi au Vietnam*, Mémoire de DESS « Sciences Sociales Appliquées à l'Alimentation », ERITA/CIRAD. Toulouse, Université de Toulouse le Mirail Toulouse.

Figuié M., Nguyen Minh Huong and Tran Thi Tham. (2006). *Assessment of the Pre-Tet Information, Education and Communication Campaign (IEC) of the Joint United Nations-Vietnamese Government Programme to fight Highly Pathogenic Avian influenza (HPAI) in Vietnam*. Prepared for FAO by CIRAD-MALICA. Hanoi, Vietnam, Socialist Republic of Vietnam, FAO, USAID, CIRAD-Malica: 63.

GSO (2004), *Ket Qua Dieu Tra Muc Sông a Gia Dinh Nam 2002* (Vietnam Households Living Standards Survey 2002), Nha xuất bản thông Kê, (Statistical Publishing house) Ha Noi, 228.

Mayer J. (2006). *Impacts des modes de distribution sur la perception des signes de qualité : perceptions des consommateurs de Hanoi, Vietnam. Cas des légumes des poulets et des oeufs*. Mémoire de Master « Sciences Sociales Appliquées à l'Alimentation », ERITA/CIRAD. Toulouse, Université de Toulouse le Mirail: 130.

Moustier P. ; Dao The Anh ; Hoang Bang An ; Vu Trong Binh ; Figuié M. ; Nguyen Thi Tan Loc ; Phan Thi Giac Tam ; Eds. (2006). *The participation of the Poor in Supermarkets and other food distribution value chains in Vietnam*. Hanoi, CIRAD/ADB, 324 p.