

# **Consumer preferences for poultry products in Indonesia**

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## ABBREVIATIONS

AI	Avian Influenza
EL	Elementary education
FAO	Food and Agriculture Organization
HPAI	High Pathogenic Avian Influenza
HS	High school education
Rp	Indonesian Rupiah, 1 US Dollar (USD) $\approx$ 9 360 Indonesian Rupiah
Univ	University education

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## PREFACE

The preparation of this report was part of the activities for the FAO project “Future prospects for the contribution of village poultry production to food security in developing Asian economies” (GCP/RAS/228/GER) that was funded by the “Deutsche Gesellschaft für Technische Zusammenarbeit GmbH (GTZ)”. The outbreaks of Highly Pathogenic Avian Influenza (HPAI) in Southeast Asia and other regions have focused attention on the production and marketing systems of poultry. The importance of the small production systems for the supply of specific products that are demanded by the consumers is presently not well understood in many countries. Preferences of many consumers for purchasing poultry products from live bird markets pose a particular challenge for organizing safe marketing chains. Marketing systems for fresh slaughtered or frozen birds are less popular. As consumer preference affect the production and marketing systems their knowledge and understanding is required for introducing changes. This will help to achieve cooperation and proper involvement of small farmers in disease prevention and control programmes. It will also assist Governments to make appropriate plans for designing and implementing their disease control strategies. The present report investigates consumer preferences for specific poultry products, purchase and consumption patterns and their reaction to Avian Influenza in two cities of Indonesia. We hope it will provide accurate and useful information to its readers and any feedback is welcome by the authors and the Animal Production Service (AGAP)<sup>1</sup> of the Food and Agriculture Organization of the United Nations (FAO).

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### Keywords

*Poultry products, Consumer preferences, Highly Pathogenic Avian Influenza, Poultry breeds, Marketing, Poultry and Culture*

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## EXECUTIVE SUMMARY

The consumption patterns of poultry products in Yogyakarta and its surroundings and in the Jabodetabek region that includes Jakarta, Bogor, Depok, Tangerang, and Bekasi cities were investigated through interviews with 200 selected consumers by using structured questionnaires. The respondents were grouped by their gender, age, education and monthly household income. They were dominated by housewives aged 36-49 years, by elementary school graduates, and by those with an average monthly income of Rp. 2 647 000.

The aim of the study was to investigate the change of poultry consumption patterns before and after the major outbreaks of Avian Influenza. The types of birds purchased and their forms of products and purchase location are examined. The results show only limited influence of the risks from Highly Pathogenic Avian Influenza (HPAI) on consumption patterns. Consumers continue buying live poultry and its products in traditional markets and from street vendors. Eating outside the home from street stall is common and is now become increasingly trendy. Exotic poultry and cooled chicken meat have a bad image because people believe that they contain preservatives, antibiotics and chemicals. Most results of the survey results are in general similar for consumers in both Jabodetabek and Yogyakarta but few difference have been highlighted

## 1. INTRODUCTION

Highly Pathogenic Avian Influenza (HPAI) outbreaks in Indonesia since mid 2003 have shaken the poultry business. Millions of poultry and more than 150 people died due to the HPAI virus. Although the first HPAI outbreaks occurred within modern chicken broiler and layer farms, the virus infected also local poultry including chickens, ducks, and wild birds. This made it more difficult to control the disease in Indonesia until now because local birds are in general freely kept in backyard.

The risk of spreading the HPAI virus significantly increases with traditional marketing patterns of chicken and poultry products. Harvested chickens and eggs are collected from many farmers and moved by small traders to markets. These markets are located in the centres of the cities. Buying live poultry in the markets suits Indonesian people because buyers can visually inspect the health condition of the chickens. Therefore, people have become used to that way of purchasing and live chicken markets continue to develop in Indonesia and it is difficult to remove them.

It is the habit of Indonesian people to buy poultry and its products for the family as live birds in the market and have them slaughtered there for consumption at home. To better understand these practises including the potential risks for public health an investigation was carried out of consumer behaviour and preferences for poultry products before and after the HPAI outbreaks.

## 2. MATERIAL AND METHODS

### Locations

The locations selected for this study were the city of Yogyakarta and its surroundings and Jabodetabek that includes Jakarta, Bogor, Depok, Tangerang, and Bekasi cities. The selected locations are urban areas and are centres of consumers. Jabodetabek is a big metropolitan area while Yogyakarta is a regional city located

about 600 km away from Jakarta. Two hundred respondents were interviewed using specific questionnaires, 100 respondents from Yogyakarta city areas and 100 respondents from the Jabodetabek areas.

### Data Collection and Analysis

The respondents were interviewed in several different places and situations. Some respondents were met and interviewed in the live poultry market, some in their office, some in their home, and a few respondents were interviewed by phone. Interviews were conducted between 6 September and 2 November 2008.

The data that were collected from the respondents include general information of the respondents, characteristics of households, place where to buy poultry and/or products, eating behaviour outside home, consumption of poultry products, difference in consumption of poultry products before and after AI, price and quantity of poultry products required, consumer tastes, diversification, and satisfaction and opinions about the quality of security products and poultry, the source and level of information, income and food expenses. Several types of markets, poultry products for sale, and activities of traders in the market were photographed for documentation.

The quantitative and qualitative data obtained were entered and analysed by using the Excel program. All data were analysed according to the educational status of the respondents (Elementary; High School; and College/University), their age (<35 years; 35-50 years; > 50 years), and their income level (<3 million rupiahs/month and >4 million rupiahs/month). Averages, standard deviation, and distribution frequencies were calculated for the variables considered by the study.

## 3. RESULTS

### General Characteristics of Respondents

The respondents' characteristics are presented and summarized in Table 1. In general, the respondents were dominated by housewives aged 36-49 years, by elementary school graduates, and by those with an average income of Rp. 2 647 000 per month. The average monthly budget for food expenditure was Rp. 1 110 000.

**Table 1** General characteristic of the respondents

Characteristic	Value
Age (years)	<35 (30.5%); 36-49 (48.5%); >50 (21%)
Education	Elementary School (26.5%); High School (46%); College/University (27.5%)
Sex	Female (85.5%) Male (14.5%)
Occupation	Housewife (43%); Employee/civil servant (24.5%); Shop owner (13.5%); Others (19%)
Income/month (million rupiahs)	2 647 ± 1 663 (range: 0.9 – 10 000)
Food expense/month (million rupiahs)	1 110 ± 0 675 (range: 0.2 – 4 000)

Source: Primary data, 2008 (processed).

There was a difference with respect to monthly income between respondents from Jabodetabek and Yogyakarta. Only 3 percent of the respondents in Jabodetabek had an income of less than Rp. 1 000 000 while in Yogyakarta this was 35 percent. At the same time 34 percent of respondents in Jabodetabek had incomes between Rp 3 000 000 and Rp 5 000 000 while that figure was only 14 percent in Yogyakarta. This affects the lifestyle of respondents which is different in Jabodetabek from those in Yogyakarta. The respondents in Yogyakarta are more educated than in Jabodetabek but there was no differences with respect to distribution of age groups.

### Household Characteristics

Almost all respondents are married with children. Their households consisted on average of 4.5 persons and almost all eat at home every day. Of these, 3.7 persons are adults (aged over 10 years and less than 60 years) and 1.4 persons eat outside the home. Most respondents have no helper in their home (Table 2).

**Table 2 Characteristics of respondent household**

Characteristic	Mean ± StD	Range
No of persons living permanently together	4.54 ± 1.42	1-9
No of persons enjoying meal at home	4.06 ± 1.57	0-9
No of adult persons	3.67 ± 1.62	0-9
No of persons often eat outside home	1.42 ± 1.33	0-6
Helper at household	21.5% have; 78.5% do not have	

Source: Primary data, 2008 (processed).

Almost all respondent households have one or more equipments required for day-to-day activities. However, it was surprising that some persons do not have vital equipment such as a stove for cooking. On average, the ownership of television is the highest while ownership of computer and insurance is the lowest. Nowadays most people in urban areas have easy access to mobile phones for various purposes (Table 3).

**Table 3 Assets owned by the responding households**

Equipment owned	Mean ± Std.Dev	Percent owning
Refrigerator	0.86 ± 0.52	79.5
Stove	1.08 ± 0.46	95.0
Television	1.34 ± 0.69	98.0
Telephone incl. Mobiles	1.50 ± 1.51	85.5
Computer	0.61 ± 0.82	48.0
Motorbike	1.27 ± 0.87	86.5
Insurance	0.74 ± 1.28	36.5

Source: Primary data, 2008 (processed).



For most of the household characteristics the samples from Jabodetabek and Yogyakarta were very similar. Some of the differences are summarized in Table 4.

**Table 4** *Difference in household characteristics of the two locations*

Respondent is	Jabodetabek	Yogyakarta
Small traders or shop owners	19%	8%
A house wife	34%	52%
The household head	25%	2%
The household spouse	66%	93%

### Place of Purchase and Consumption of Poultry Products

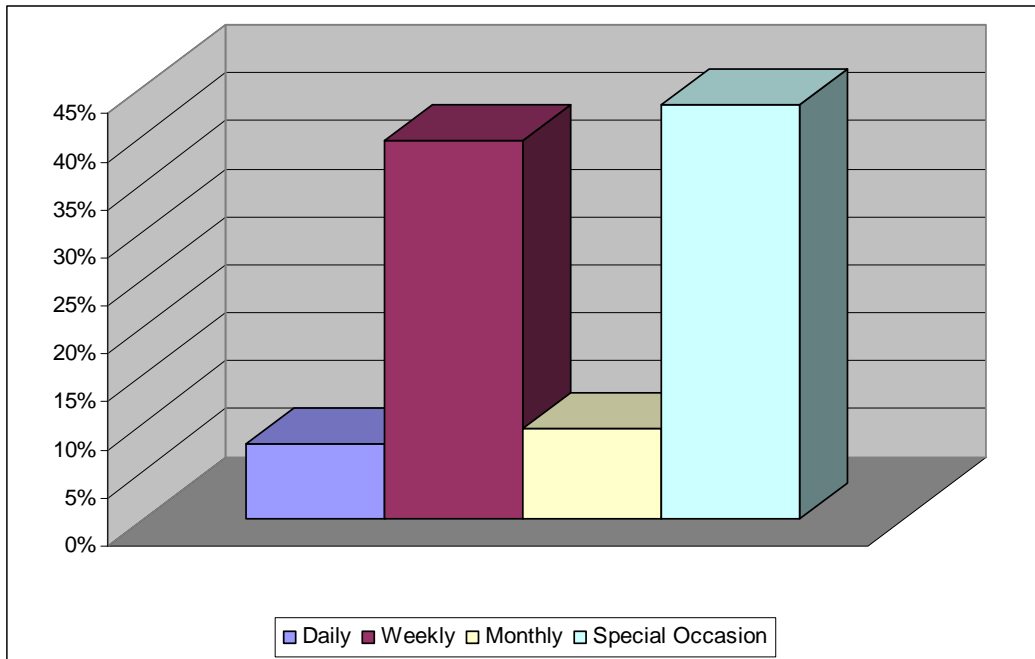
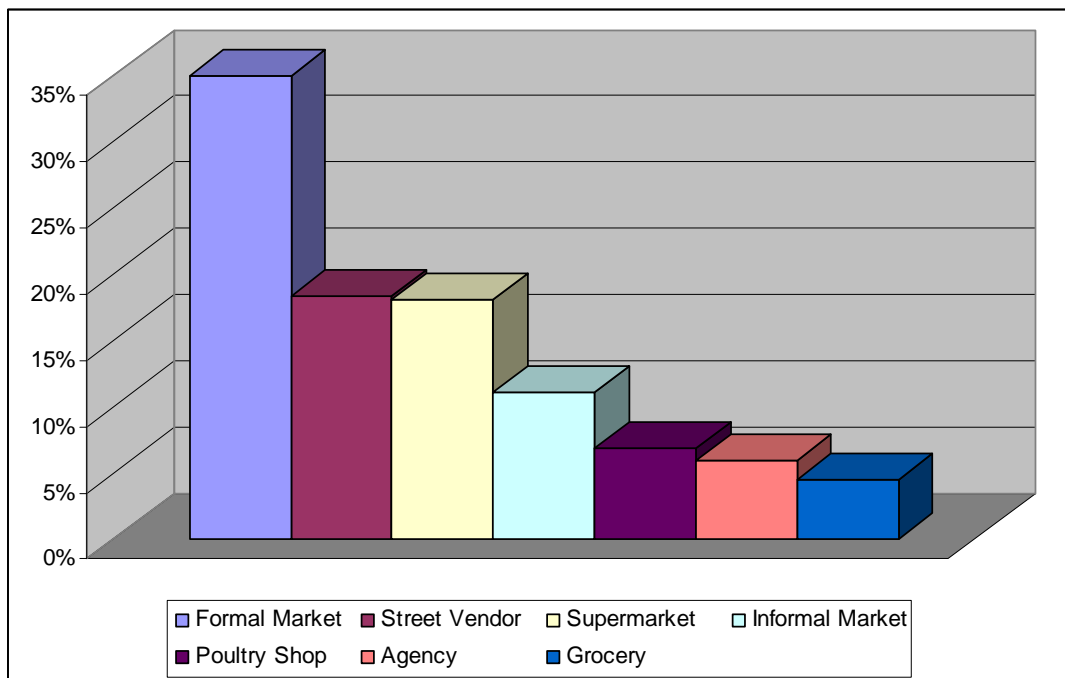
Poultry products are usually purchased in formal market, from street vendors or in supermarkets. The majority of respondents from Jabodetabek and Yogyakarta purchase their poultry products usually from these three places either weekly or on special occasions. The distribution of respondents purchasing products from these main places is summarized in Table 5 and Figures 1 and 2.

**Table 5** *Place of purchasing poultry products\**

Place of purchase	Jabodetabek		Yogyakarta	
	Weekly	Special occasion	Weekly	Special occasion
Formal market	36 (18%)	29 (15%)	26 (13%)	32 (16%)
Street vendor	10 (5%)	11 (6%)	20 (10%)	15 (7%)
Supermarket	13 (7%)	24 (12%)	9 (4%)	13 (6%)
Others	19 (10%)	24 (12%)	26 (13%)	26 (13%)

\* Daily and monthly purchases are not tabulated

In many places, eggs without package are the most widely purchased form of poultry product with similar results for the two regions. In Jabodetabek semi-scavenging chickens were the most popular chicken type while both backyard chicken and industry chicken are purchased more frequently in Yogyakarta. The reason most frequently cited for buying a specific type of poultry products is freshness but in Yogyakarta a cheap price was even more often cited as criteria than freshness. The most frequently cited reason for location of purchase is to be near home. The four mostly cited reasons for specific choices related to poultry and poultry product purchases are summarized in Table 6. Apparently most respondents prefer to buy cheap, unpacked products (eggs) near their homes with a frequency of two times a week or for special occasions.

**Figure 1** Frequency of purchases of poultry products**Figure 2** Place of purchase of poultry products

**Table 6 Most frequent choices by respondents**

Variable	The most frequent choices
Type of poultry products	Chicken eggs (37.7%); domestic/back-yard chicken as a whole (14.8%); semi-scavenging chicken as a whole (13.3%); dan industry chicken as parts (8.9%)
Form of poultry products	Chicken eggs without package (39.4%); chicken meat in pluck and fresh (36.4%); alive chicken (12.5%); and packed chicken eggs (3.7%)
Reasons for choosing the form of poultry products	Freshness (24.6%); Safety (21.7%); Easy cooking (19.9%); and Cheaper price (19.6%)
Places to buy poultry product	Market stall (38.7%); street vendor (18.7%); Supermarket (16.7%); and poultry shop (7.8%)
Reasons for choosing the place	Near home (22.2%); Habit (15.0%); Cheaper price (14.6%); and Safety (13.9%)
Frequencies of purchase	2-3 days between 2 purchases (56.0%); special occasion (43.6%); never purchase (0.4%)

Source: Primary data, 2008 (processed).

### Comparison of Consumption before AI and at the time of survey

The survey results show that the AI outbreaks did not significantly change the consumption of poultry products by the respondent's families. On average, 69.5 percent of the respondents from both locations consumed the same quantity of poultry product before and after AI. About 29.5 percent of respondents reported that their consumption of poultry products decreased. Three main reasons were given for this change: (1) being afraid of bird flu, (2) got used not to eat poultry products during the AI crisis (3) high price of poultry products. Table 7 shows that there are no large differences between the place of purchase of poultry products before AI and the time of the survey. The majority of respondents continue to prefer buying food or poultry products from market stall, from street vendors or in supermarkets. However, the proportion of people purchasing from supermarkets is increasing in both locations and those of buying from market stall and street vendors decreasing. The proportion of people buying directly from the producers is higher for Yogyakarta (Table 7).

**Table 7 Proportion of respondents purchasing poultry products from different places before AI and at the time of the survey**

Place of purchase	Jabodetabek		Yogyakarta	
	Before AI	After AI	Before AI	After AI
Market stalls	47.6%	42.2%	42.9%	40.6%
Supermarkets	19.3%	25.0%	16.6%	17.6%
Street vendors	19.3%	17.7%	24.6%	22.9%
Poultry stores	10.2%	11.5%	4.6%	5.3%
From farmers	3.7%	3.6%	11.4%	13.5%

The forms in which poultry products were purchased before AI and during the time of the survey are shown by Table 8. The three major forms of products purchased by the respondents are still the same, namely alive poultry, plucked fresh carcasses and unpacked chicken eggs. In Jabodetabek other forms of poultry

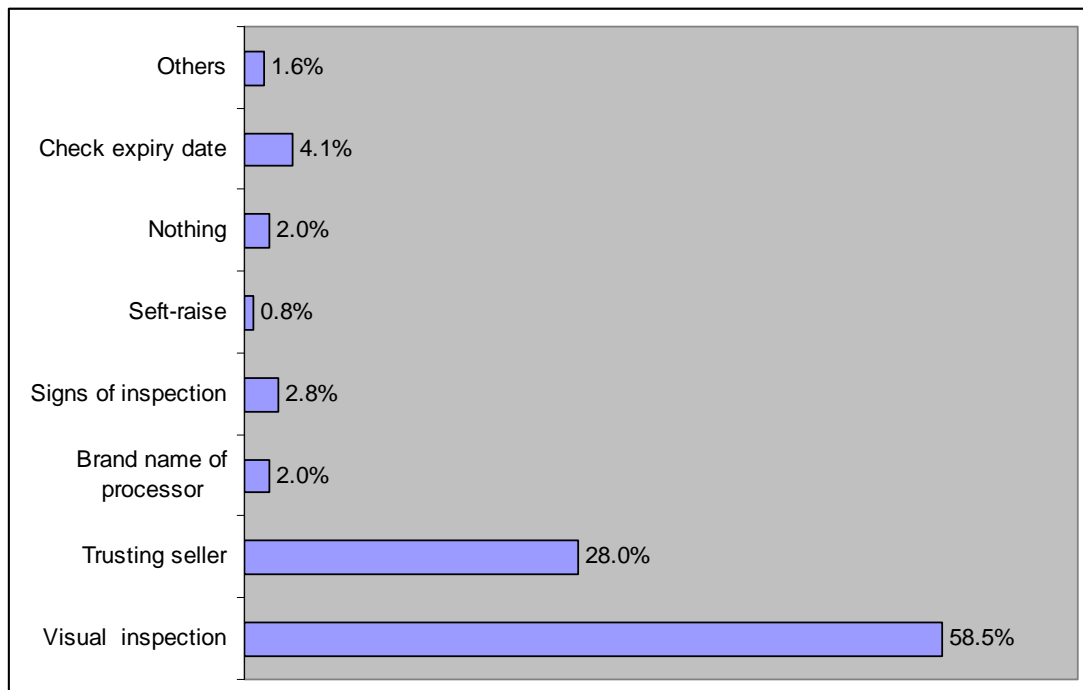
purchases like frozen carcasses and roasted chicken have increased at the expense of live birds and those sold plucked fresh.

**Table 8 Form of products purchased by respondents before AI and at the time of the survey**

Form of purchase	Jabodetabek		Yogyakarta	
	Before AI	After AI	Before AI	After AI
Alive	30.1%	27.5%	17.4%	16.8%
Plucked, Fresh	56.1%	50.0%	66.1%	66.4%
Other	13.8%	22.5%	16.5%	16.8%
Eggs unpacked	91.9%	92.7%	92.6%	89.6%
Eggs packed	8.1%	7.3%	7.4%	10.4%

While purchasing live birds or slaughtered poultry most respondents try to recognize the product safety by visual inspection. Many respondents also trust the seller regarding the safety of the poultry products (Figure 3). Other measures to recognize the safety, such as brand name, signs of inspection or expiry date are used only by few numbers of respondents.

**Figure 3 Ways of recognizing the safety of poultry products by the respondents**

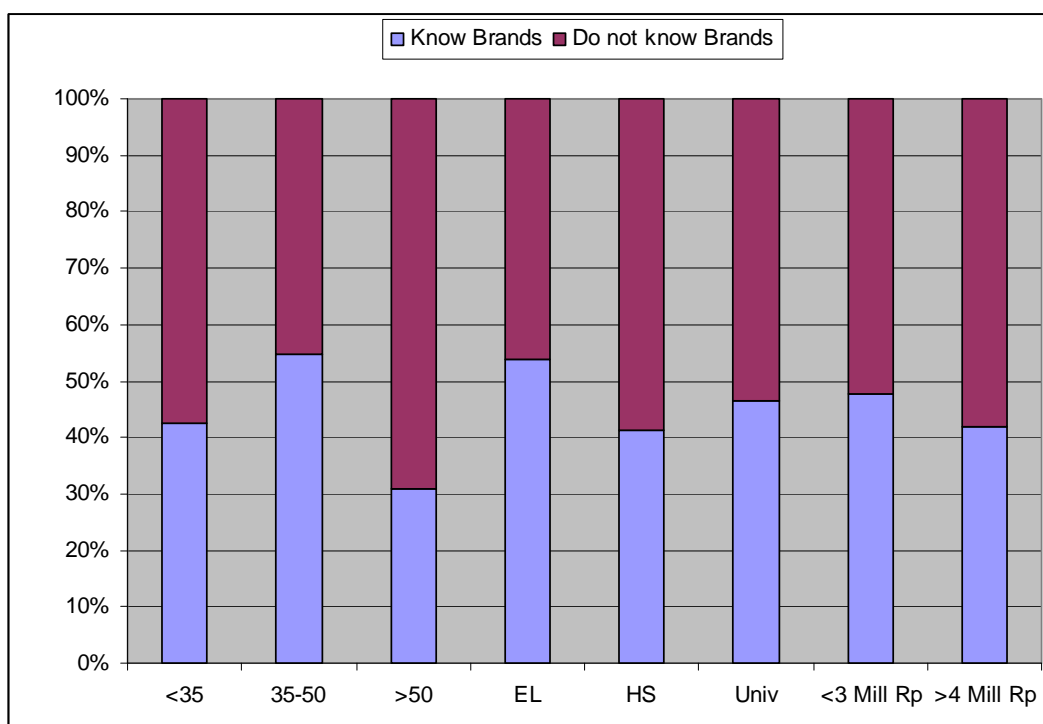


As people use mainly visual inspection to check the quality and safety of the poultry products, it is not surprising that almost half of the respondents did not know any brand of poultry products. Figure 4 shows that the proportion of not knowing any brand is even higher among the better educated respondents. The poultry brands that were well known among the respondents included "so good", "fiesta", "vida", and "champs".

### Price and purchase quantity

The quantity of poultry products purchased by the respondents is depending on its price. For the majority of respondents (62.5 percent), both in Jabodetabek and Yogyakarta the current prices of poultry products were reasonable and acceptable with respect to their incomes, for 35.5 percent of the respondents they were not. Regarding substitute products 70 percent of the respondents agreed that poultry products are attractive, while 28.5 percent had an opposite view. The results regarding this question for the two locations are summarized in Table 9 and for the different groups of respondents with respect to age, education and income by Figure 5.

**Figure 4 Knowledge about national poultry brands by respondents grouped according to age, education and monthly income level**



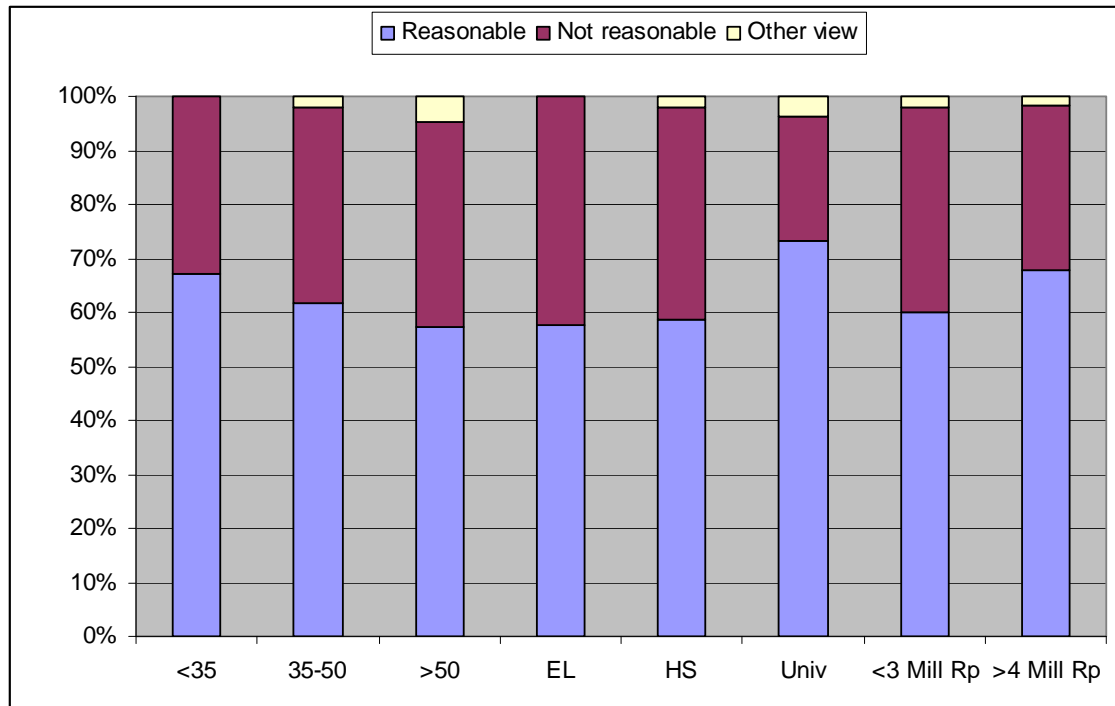
**Table 9 View of respondents regarding prices of poultry products with respect to their income and substitute products**

Form of purchase	Jabodetabek		Yogyakarta	
	Reasonable	Not reasonable	Reasonable	Not reasonable
With respect to income	71.7%	28.3%	55.7%	44.3%
With respect to substitutes	71.7%	28.3%	70.4%	29.6%

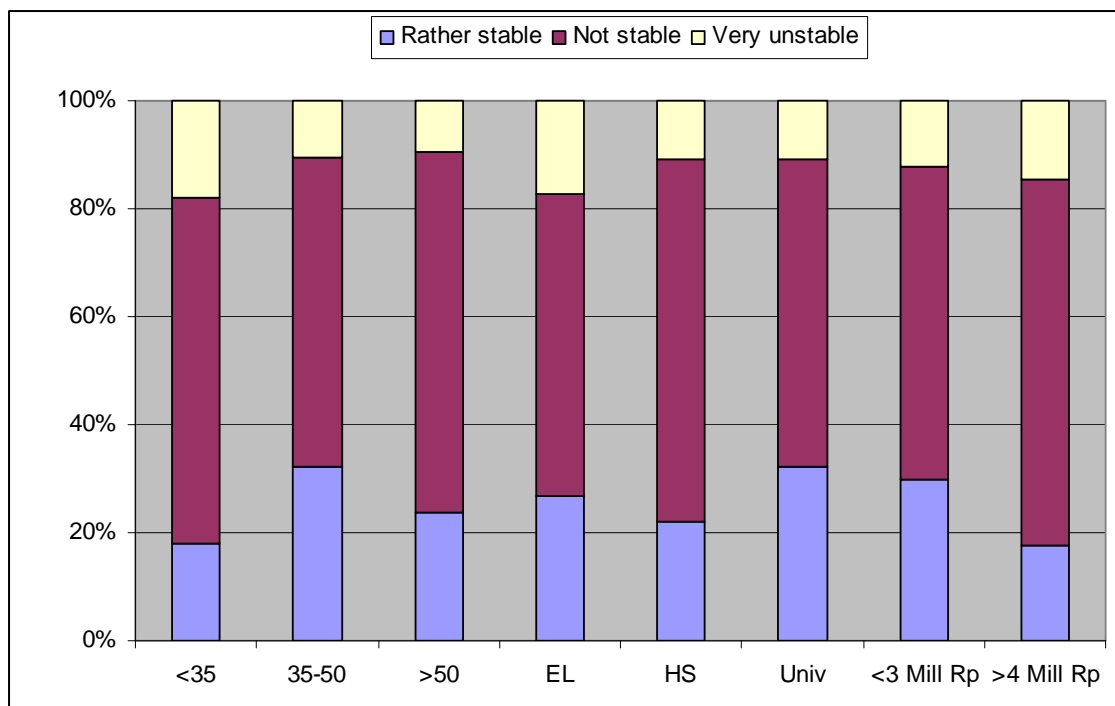
According to 61 percent of the respondents the prices of poultry products were not stable in the two locations during the year of the survey. Nobody found the prices very stable and even 12.5 percent found them very unstable. The poultry prices in Indonesia depend only on the market situation and they are not controlled

by the Government. The views about price stability of the different groups classified by the survey are shown by Figure 6.

**Figure 5 Respondents views about prices of poultry products compared to their income level for respondents grouped according to age, education and monthly income level**

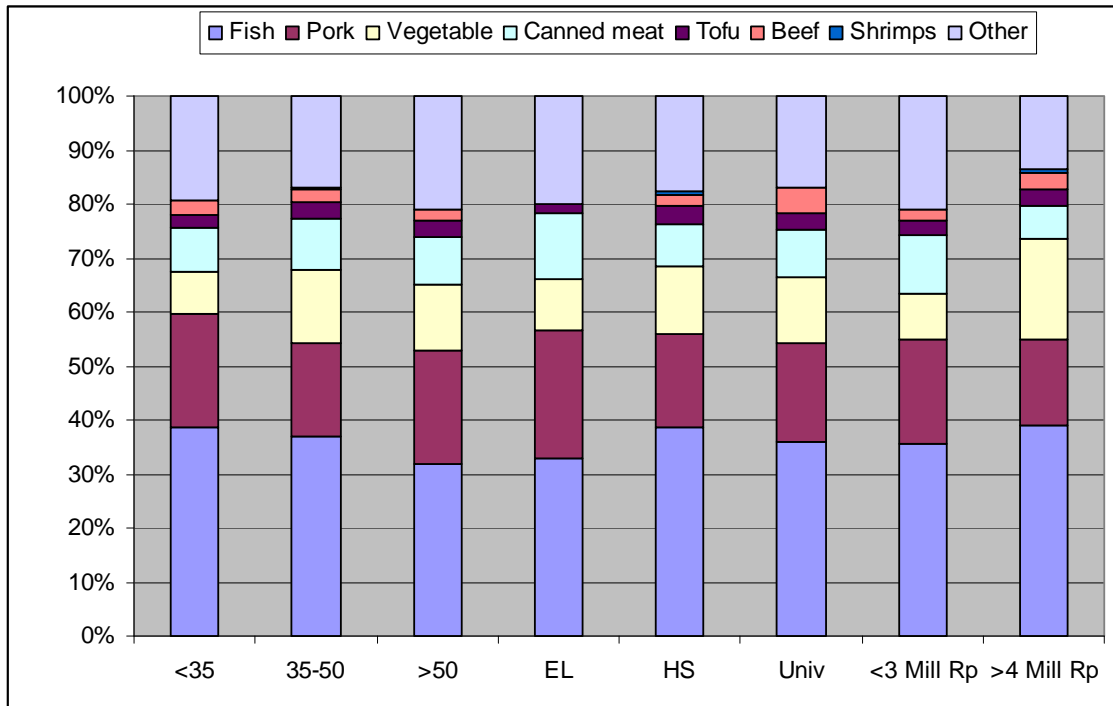


**Figure 6 Respondents views about price stability of poultry products for respondents grouped according to age, education and monthly income level**



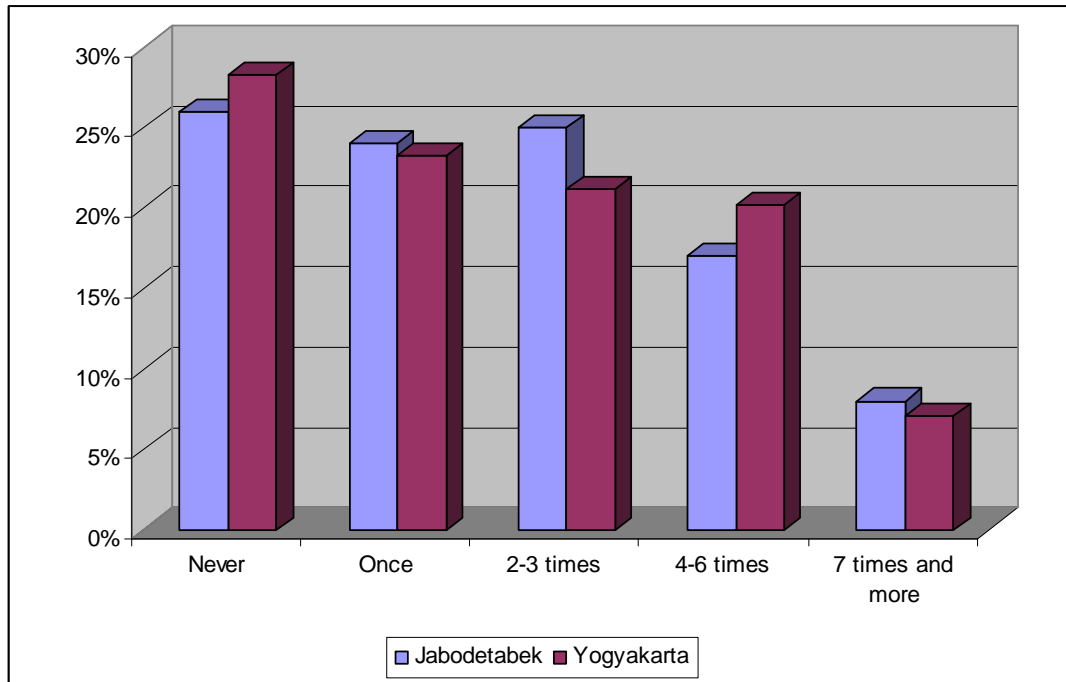
Fish is the most common substitute for poultry products if its prices increase. Other common substitutes are beef, vegetables and tofu. Pork is selected only by respondents from Jabodetabek. The share of different commodities selected by respondents as substitute for poultry based on their background is shown by Figure 7.

**Figure 7 Products used as substitute for poultry products for respondents grouped according to age, education and monthly income level**

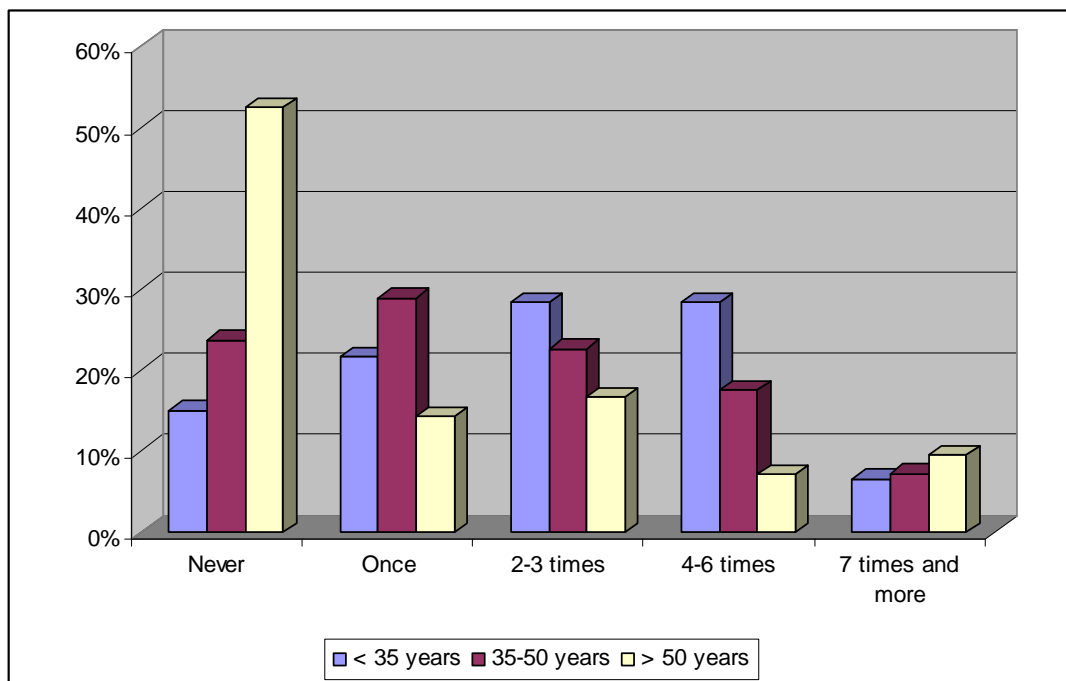


**Eating outside home**

Respondents generally prefer to eat at home everyday. Respondents eating outside their homes usually have a meal once a week or two to seven times a week. The frequency distribution of number of respondents eating outside their home is shown by Figure 8.

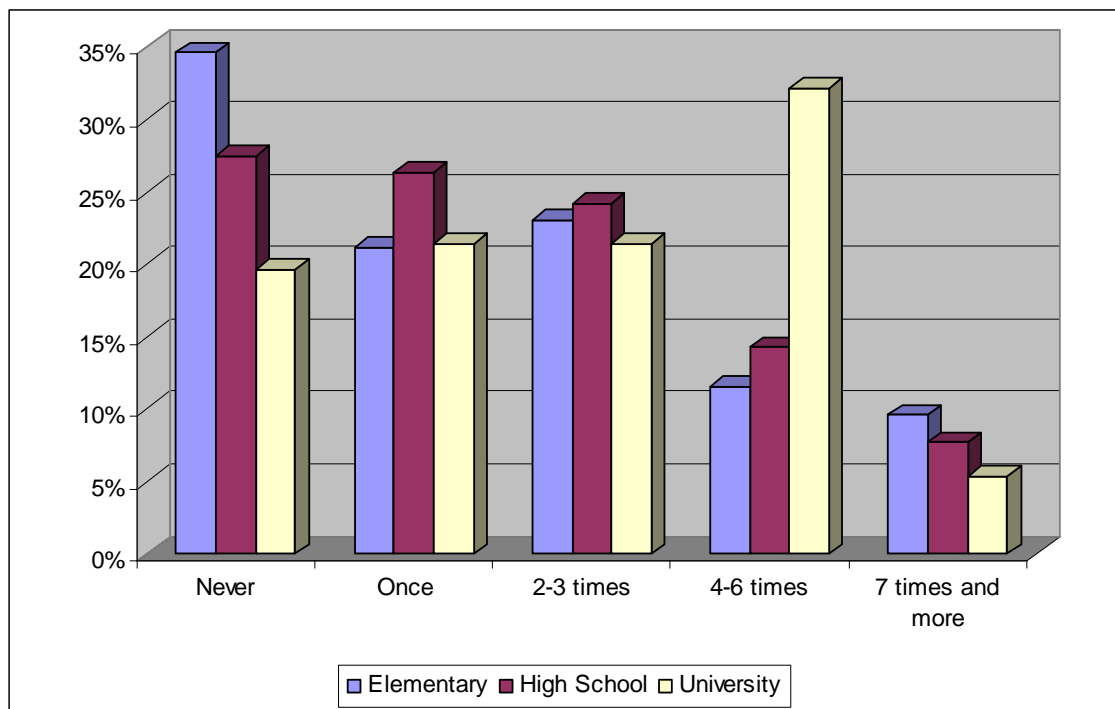
**Figure 8 Weekly frequency of eating outside the home**

If classified according to the respondent's background, those with an income more than Rp. 4 million per month, University educated, and below 35 years are most frequently eating outside home (Figures 9-11).

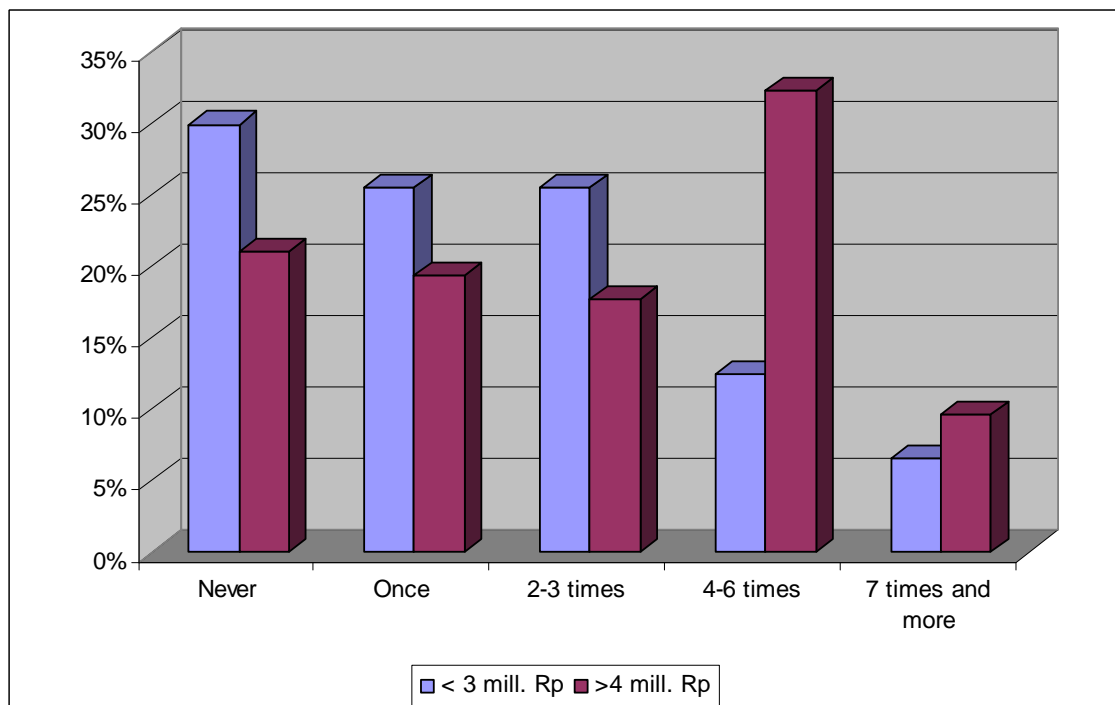
**Figure 9 Weekly frequency of eating outside the home by age of respondent**



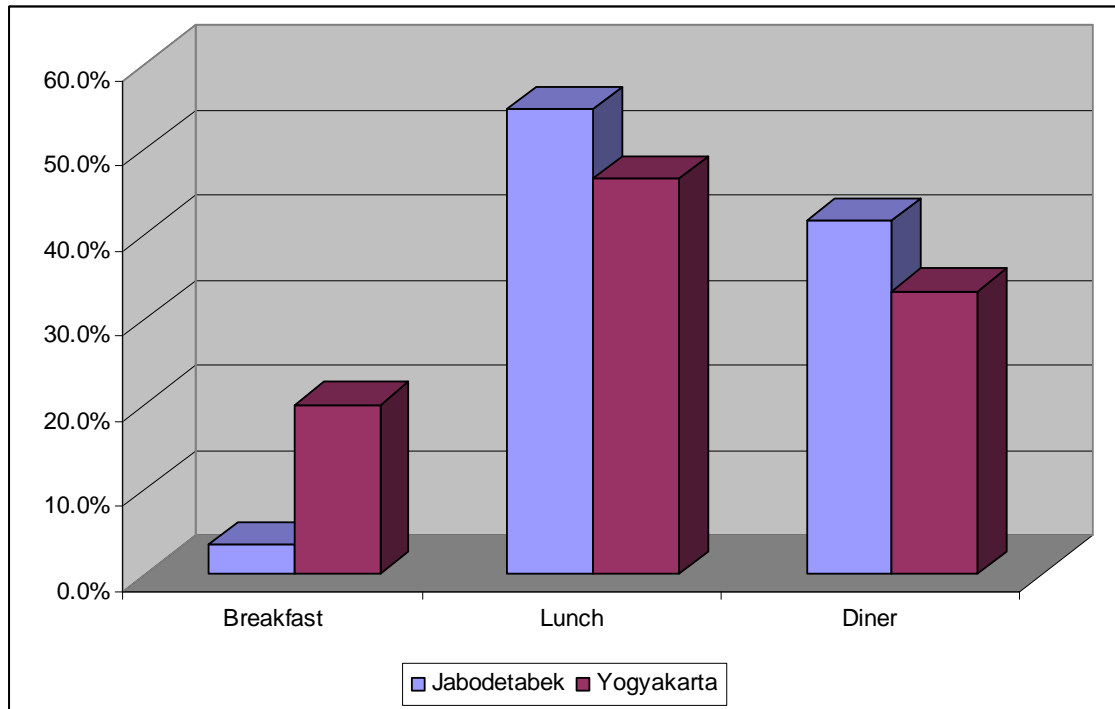
**Figure 10 Weekly frequency of eating outside the home by education of respondent**



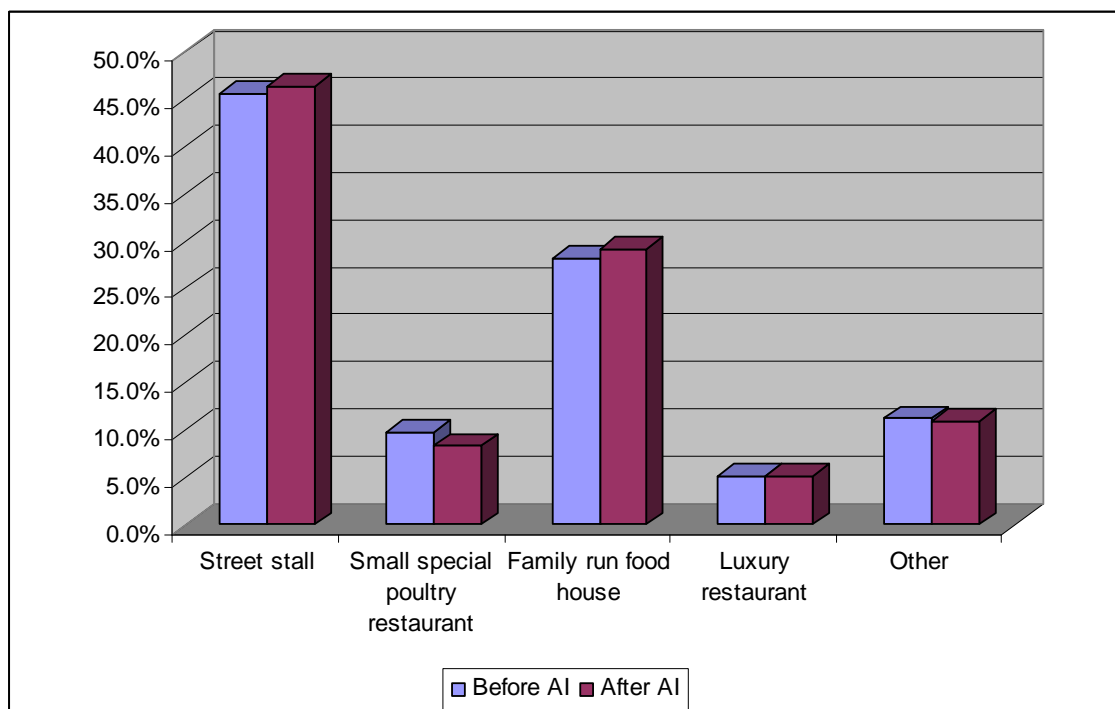
**Figure 11 Weekly frequency of eating outside the home by monthly income of respondent**



People usually eat outside their homes during lunch and dinner time (Figure 12).

**Figure 12 Time of the day for eating outside the home (n=159)**

People usually have their meals outside the home from street stall or family run food houses. The choice for these places did not change after the AI outbreaks (Figure 13). There was fear during the beginning of the outbreaks, but at the time of the survey the situation was back again to the previous behaviour. It means that the outbreaks of avian influenza (AI) in Indonesia did not create lasting fear for respondents to buy food outside home. This situation was also consistent for the three investigated influencing factors (age, education and income level).

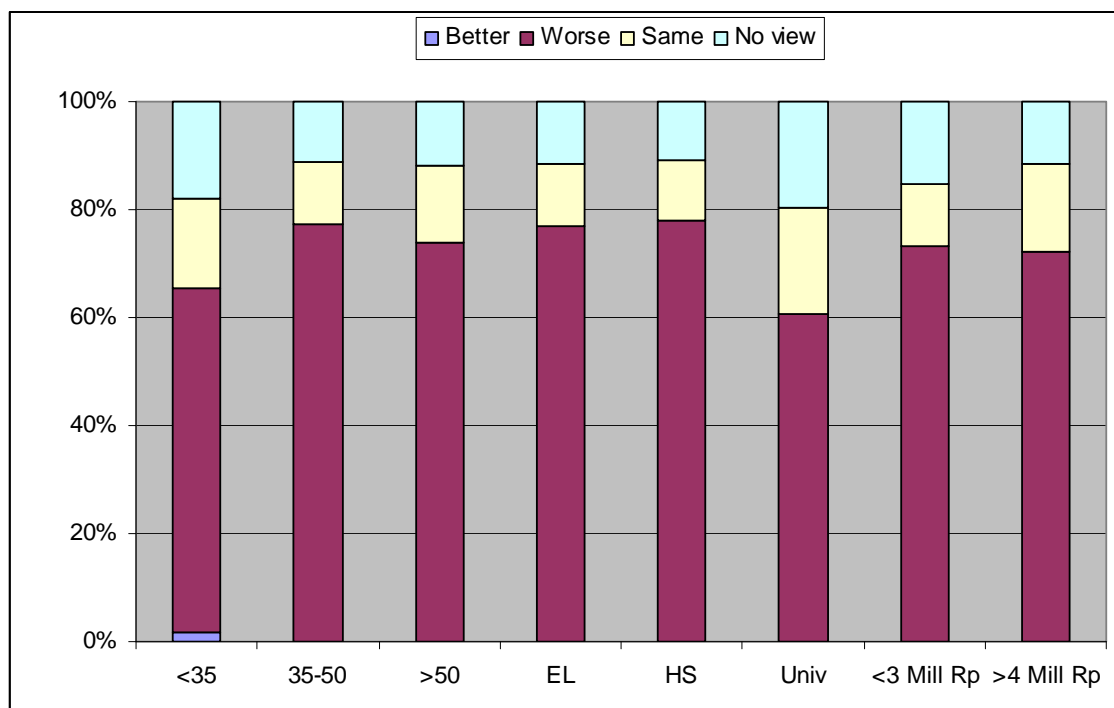
**Figure 13 Places chosen for eating outside the home before and after AI**

After hearing about bird flu, 43 percent of the respondents did not change their outside consumption pattern while 22.5 percent of the respondents changed only for some time and then came back to their previous pattern. Only 7 percent of the respondents changed their consumption pattern immediately after the first occurrence of bird flu. However, 72 percent declared that they have been assured about the safety of poultry food by the caterers. The most important aspects for them were (a) that the place looks neat and clean (35.7 percent); (b) it is a place known to them (32.1 percent); and (c) that it has signs of poultry inspection (3.6 percent).

### Customer's taste, product diversity and product satisfaction

Indonesian people consume chicken meat from industry poultry, and meat from local chickens, ducks, quails, and pigeons. For the majority of respondents (93.5 percent) the texture and flavour of the local poultry meat is more delicious than that of industry poultry meat. Very few respondents stated that the taste of the two categories is the same. Fresh meat of newly slaughtered chicken is also considered more delicious than that of already cooled meat (72.7 percent), and the number of respondents who found it to be the same was low (Figure 14).

**Figure 14 Opinions on the taste of cooled compared to fresh poultry meat for respondents grouped according to age, education and monthly income level**



Some of the reasons for preferring the taste of local chickens are summarized in Table 10. The respondents' views about meat from industry chicken are very low and to some extent obviously not based on facts.

**Table 10 Reasons why respondents find the texture and flavour of domestic poultry meat better than that of exotic chicken (No. respondents)**

Respondents view	Jabodetabek	Yogyakarta
Meat from domestic poultry is firm, fatless, and rubbery	76	58
Domestic poultry receive feed without drugs/antibiotics/chemical	7	28
Meat from exotic poultry is smelly and looks exudated	3	0
Domestic chicken always receive natural feed	3	7
Meat from domestic chicken will keep its texture if cooked longer	2	1
Meat from domestic chicken is good for health	2	2

Some of the reasons for preferring the taste of fresh compared to cooled poultry meat are summarized in Table 11.

**Table 11 Reasons why respondents find the texture and flavour of cooled meat worse than that of fresh meat (No. respondents)**

Respondents view	Jabodetabek	Yogyakarta
Cooled meat gets smelly, wet, look soft, fatty	49	41
Cooled carcasses have been stored for some time. They may be an old product	24	10
Fresh meat is always healthier	3	6
Cooled meat contains preservatives	3	0
Cooled meat may carry much water	3	0
Condition of carcass is unknown and may contain residues	0	2
Cooled meat may have lost nutrients	0	2

Live chickens are purchased by 31.5 percent of the respondents in the two locations. Some of the reasons why the others don't do this are summarized in Table 12.

**Table 12 Reasons why respondents do not buy live chicken**

Respondents view	Jabodetabek	Yogyakarta
Prefer to have chicken directly slaughtered at the place of purchase	24	0
Always buy carcass	20	11
Is complicated and need time to process	6	0
Lack of money, it is expensive	5	9
Too busy to deal with it	2	0
It is not practical, I don't like it	4	47

Proper packaging may be among the approaches to make poultry products safer and more attractive for consumers. According to 30 percent of the interviewed consumers the form and diversity of package did not change after the AI crisis and even 62 percent had no view on that subject. More than 50 percent of the respondents agreed that proper packing and labelling of poultry products would be a good idea while 30 percent disagreed with that suggestion. The reasons for agreeing included the following statements:

- Quality of product is guaranteed and the product will be more hygienical, cleaner and healthier (49 respondents)
- Consumers will feel more safe when buying poultry product (11 respondents)
- Consumers will know the expiry date of products.

The reasons for disagreeing included the following statements:

- I prefer to buy fresh meat (12 respondents)
- Live chickens do not need package and label (12 respondents)
- The product becomes more expensive (8 respondents)
- Fresh and unfresh meat can no longer be distinguished by visual inspection (8 respondents).

The statements above are confirmed by views about the need of poultry product retailers to have a fridge or chilling box. The use of those was seen important by 50.5 percent of the respondents with the following justifications:

- Meat can be kept for longer time in good quality, hygiene, and clean (58 respondents)
- Poultry products will be kept fresh, healthy, hygienic, and safe (22 respondents)
- Poultry meat can be preserved if it is not sold (18 respondents)
- It will make products safer for the consumer (6 respondents)

The use of a fridges or chilling boxes was not supported by 29.5 percent of the respondents because:

- They prefer to buy live chickens slaughtered directly so that they are fresh (10 respondents)
- Customers always want to buy fresh product at the market (7 respondents)
- Frozen meat is not good because its nutritive values decreases (6 respondents)

- All poultry product should be sold immediately as a fresh product (6 respondents).

The interviewed consumers had also different views about the need for packaging of eggs in a box with a label. Those who agreed for the need (53.5 percent) had the following reasons:

- Egg damage can be avoided (34 respondents)
- Expiry date of eggs will be known (30 respondents)
- Quality of eggs is guaranteed (23 respondents)
- Egg can be kept safe and healthy (15 respondents)

Those who thought that a box and a label for eggs are not important (32.5 percent) had the following reasons:

- Single eggs cannot be sold (20 respondents)
- It is cheaper if eggs are sold open (11 respondents).

It was obvious that the respondents realized that packaging and labelling of the poultry products may consequently lead to higher prices. The proportion of respondents who would accept or not accept a 10 percent higher price was almost similar (42 and 44 percent). If the price would increase by 20 percent only 9 percent would accept and 39.5 percent would not. The majority of respondents (73.5 percent) did not answer the question for a potential price increase of 30 percent.

### **Views of respondents about quality of poultry and safety control**

The role of the Government is important to ensure the safety of the consumers and to increase consumption of poultry products such as chicken meat and eggs. Almost half of the respondents (47.5 percent) expressed that the Government interventions for the control of AI guaranteed consumer's safety. Specific comments included:

- Consumers feel safe to consume poultry product (30 respondents);
- The Government has shown effort to prevent AI (21 respondents);
- The Government is responsible to help the society (11 respondents);
- The AI situation in Indonesia gets better (7 respondents);
- More people know how to better prevent the spread of AI (6 respondents).

Those who did not agree with the positive contribution of the Government (30.5 percent) had the following reasons.:

- No evidence of Government's role (11 respondents);
- Not all sellers can be trusted (9 respondents);
- The Government's effort is not maximum;
- Food safety for consumers is not guaranteed yet (5 respondents);
- Many farmers do not comply with the Government's regulations (5 respondents);
- Many promises from their Government but no action (5 respondents).

The surveyed consumers were asked whether they believe that signs of inspection (stamps on egg or poultry) would indicate safe products. Many of the respondents (44 percent) do not trust these stamps because:

- Many traders lie and it is difficult to trust them (28 respondents);
- A lot of falsification is found (26 respondents);

- The content of the product is unknown and its quality is not guaranteed (11 respondents);
- There is no guarantee that the product is of good quality (8 respondents);
- It is not guaranteed that stamped eggs/products are original and safe (5 respondents).

A smaller proportion of the respondents (21 percent) were more confident about official signs of inspection because:

- The product is already inspected by responsible authority (12 respondents);
- The product has been carefully inspected and controlled (18 respondents);
- The expiry date of the product is clear (6 respondents);
- Seller must be honest and keep good quality (4 respondents).

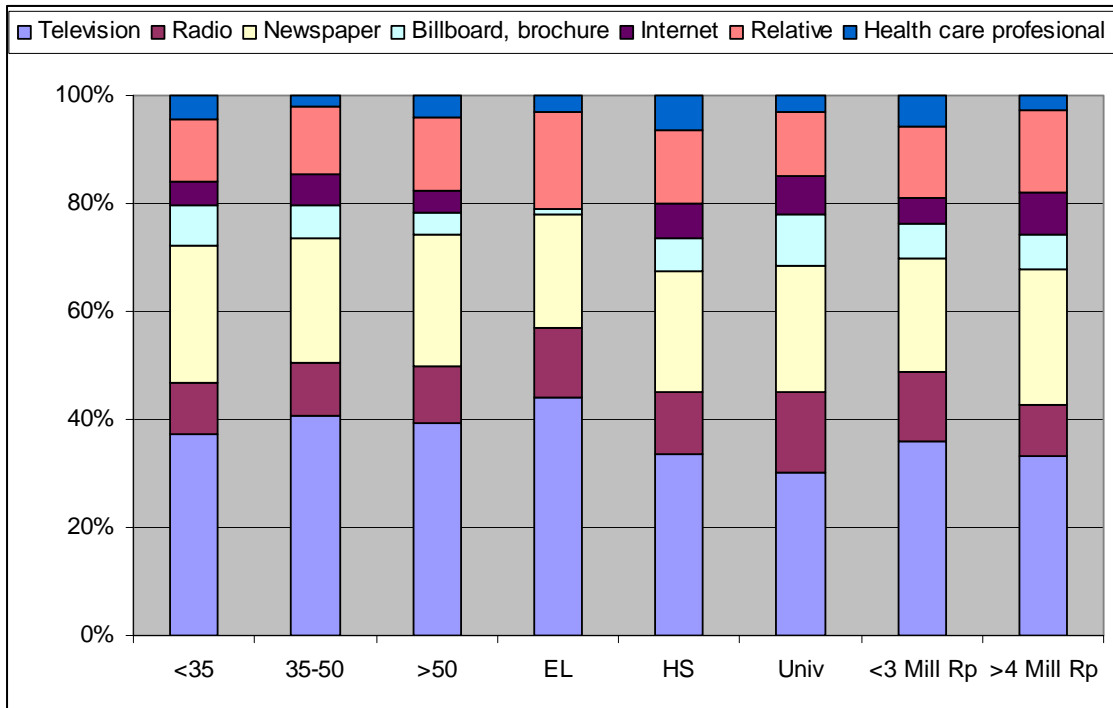
In addition to the comments about the safety of officially inspected poultry products sold at the markets the surveyed consumers also had the following suggestions to help increase the consumption of poultry products:

- To reduce the price of poultry products (44 respondents);
- To produce and distribute through clean healthy markets with waste management and periodical market inspection (34 respondents)
- To guarantee the safety of the poultry products from producer to consumer (17 respondents);
- Government to prosecute traders that provide poor quality (11 respondents);
- Products should be labelled, halal certified with expiry date (8 respondents);
- Routine inspection for AI should be done not only in residential areas but also in markets and on farms (7 respondents);
- Government to arrange periodically public awareness campaigns on food safety (7 respondents).

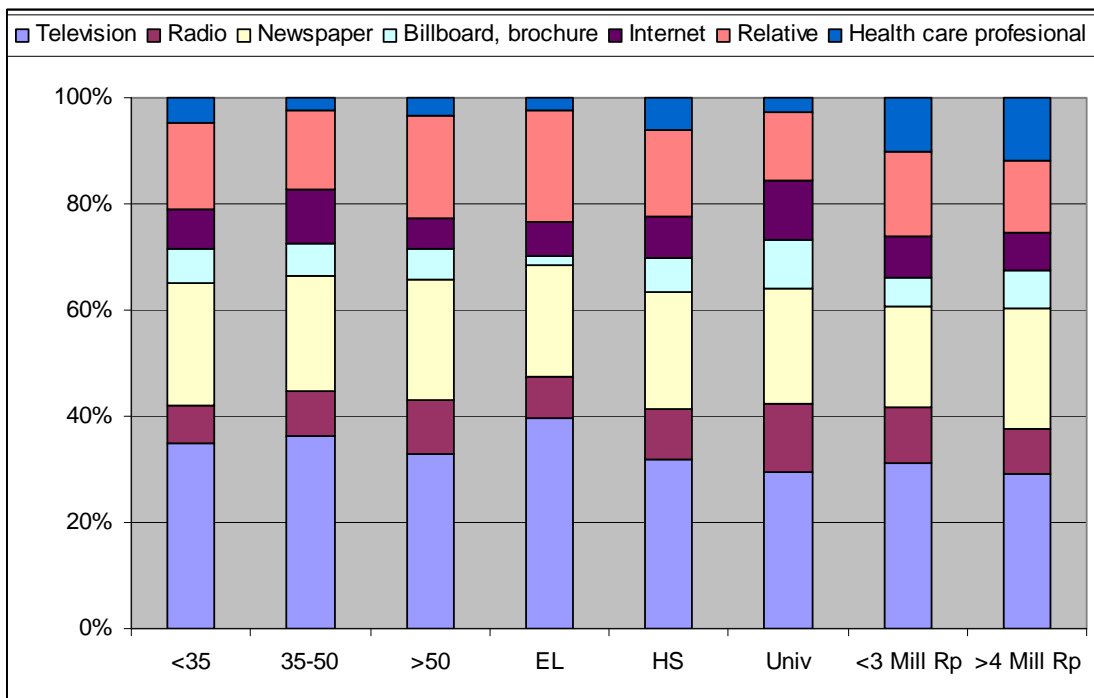
### **Source and level of information**

There are different media that play an important role for broadcasting and announcing information about food safety. The type of media from which the different categories of respondents have received information about food safety is shown by Figure 15 and for information about safe poultry keeping by Figure 16. Television, radio and newspapers have the largest role. An important influence have also been relatives while the role of professional health care staffs seems to be limited.

**Figure 15 Source of information about food safety for respondents grouped according to age, education and monthly income level**



**Figure 16 Source of information about safe poultry for respondents grouped according to age, education and monthly income level**





## 4. CONCLUSION

Regarding their poultry consumption behaviour under the thread of Avian Influenza one can draw the following conclusions for the surveyed poultry consumers who may be classified as Indonesian middle or lower class:

- People were afraid of the AI virus especially at the beginning when the virus fatally infected humans. Now there is no more fear.
- Consumers continue buying live poultry and its products in traditional markets and from street vendors as a habit.
- Packaging and labelling is less important as people do not trust the packed products.
- Eating outside the home from street stall is common and is now become increasingly trendy.
- Exotic poultry and cooled chicken meat have a bad image because people believe that they contain preservatives, antibiotics and chemicals.
- Consumption of poultry product is still low because of low monthly incomes.
- Most results of the survey results are in general similar for consumers in both Jabodetabek and Yogyakarta but few difference have been highlighted.

**ANNEX 1: QUESTIONNAIRE**

Q1. Questionnaire n°: /\_\_\_\_\_/

Q2. Name of interviewer: .....

Q3. Interview date: /\_\_\_/\_\_\_/ 2008

**POULTRY CONSUMPTION SURVEY**

July 2008

Are you responsible for food in your household?

1. Yes (continue)

2. No (stop interviewing)

**A. GENERAL INFORMATION**

Q4. Name of respondent: .....

Q5. Sex:                    1. *Male*                    2. *Female*

Q6. Age: .....

Q7. Address: .....

Q8. Tel: .....

Q9. What is the education level of the respondent

0. No education (no diploma)

1. Primary diploma

2. Lower secondary diploma

3. Upper secondary diploma

4. Technical secondary diploma    5. *College/ University diploma*

6. Post graduate diploma

Q10. Occupation of respondent now or before retiring /\_\_\_\_\_/ (see code in the table below)

**Cross here if now retired** 1 *Employed by International  
companies/organisations or Joint-ventures*7 *Unskilled workers*2 *Small traders or shop owners*8 *Farmers, Forestry and fishery*3 *Small retailers*9 *House wife*4 *Civil servants or employed by small local  
companies*10 *Employed by state companies*5 *Sellers, House worker*99 *Others*6 *Craftsmans, skilled worker*

## B. HOUSEHOLD CHARACTERISTICS

Q11. Position in your family?

- |                        |   |
|------------------------|---|
| 1. Household head (HH) | 4. HH parents or parents in law           |
| 2. HH spouse           | 5. HH relative (uncle, nephew, cousin...) |
| 3. HH child            | 6. HH members without kinship             |

Q12. Total number of people living permanently in the household? |\_\_| |\_\_| head

Q13. How many persons enjoy meals at home together? |\_\_| |\_\_| head

Q14. Of all people living in your household how many are above 60 years of age?

|\_\_| |\_\_| head

Q15. Of all people living in your household how many are below 10 years of age?

|\_\_| |\_\_| head

Q16. Of all people living in your household how many often eat outside home? |\_\_| |\_\_| head

Q17. Do you have a helper? 1. Yes 2. No

## C. PLACE OF PURCHASE

Q18. Do you purchase poultry or its products food at [...]? (*Read each row in column 1 and mark correspondingly in column 2*) How often do you purchase at [...]?

(1)	1. Yes 2. No (2)	How often do you purchase? <b>(code 04)</b> (3)		
Q20.1a Street vendor	Q20.1b	Q20.1c		
Q20.2 Informal market	Q20.2b	Q20.2c		
Q20.3a Formal market	Q20.3b	Q20.3c		
Q20.4a Grocery	Q20.4b	Q20.4c		
Q20.5a Store/Agency	Q20.5b	Q20.5c		
Q20.6a Poultry shop	Q20.6b	Q20.6c		
Q20.7a Supermarket	Q20.7b	Q20.7c		
Code 4:				
1. Daily	2. Weekly	3. Monthly	4. Special occasion	5. Never

## D. EATING OUT

Q19. How many meals do you eat outside in a week (including breakfast, lunch, dinner)?  
(for respondent only).....times/week.

Q20. Which kind of meals (breakfast, lunch, or dinner) do you most often have outside?

1. Breakfast                      2. Lunch                      3. Dinner

Q21. If you like to eat outside your home food which includes poultry which place do you choose? (Before / after bird flu), (*corresponding to Q22*)?

Place	Before bird flu	After bird flu
	Q23.1	Q23.2
1. A street stall		
2. Small restaurant specialised in poultry		
3. A family-run food house		
4. A luxury restaurant		
99. Other ( <i>specify</i> )		

Q22. Did your eating out changed with the information (hearing about) of bird flu?

- 1        Yes, immediately after first occurrence  
 2        For some time  
 3        It is still different  
 4        No change.....

.....  
 .....

Q23. Have you considered the assurance of food providing from these caters?

1. Yes                                      2. No

Q24. If yes, what is important?

1. this is my acquainted place  
 2. the place looks neat and clean  
 3. they have " quarantined poultry" signs  
 4. the place is prestigious  
 99. Others (*specify*)\_\_\_\_\_

**E. POULTRY CONSUMPTION**

Q25.

What supplies of poultry (purchased and non-purchased) have you had at home now?	Form of product?	Why do you choose this form of product?	Where do you usually buy [...]?	Why do you choose this place?	How often do you buy? (Days in interval)	How much of [...] have you acquired per time?
	Code 01	Code 02	Code 03	Code 04	Code 05	(kg) or (egg)
<b>1. Domestic/back-yard chicken</b>						
+ A Whole unit/half ( <i>underlined</i> )						
+ Part ( <i>specify: thigh, wing, leg....</i> )						
<b>2. Semi-scavenging chicken</b>						
+ A Whole unit/half ( <i>underlined</i> )						
+ Part ( <i>specify: thigh, wing, leg....</i> )						
<b>3. Industry chicken</b>						
+ A Whole unit/half ( <i>underlined</i> )						
+ Part ( <i>specify: thigh, wing, leg....</i> )						
<b>4. Semi-scavenging Duck /Goose</b>						
+ A Whole unit/half ( <i>underlined</i> )						
+ Part ( <i>specify</i> )						
<b>5. Semi-scavenging Duck /Goose</b>						
+ A Whole unit/half ( <i>underlined</i> )						
+ Part ( <i>specify</i> )						
<b>4. Chicken eggs</b>						
<b>5. Duck eggs</b>						
<b>99. Other (specify) .....</b>						

Code 1. Form of Product	Code 02. Reason to choose a product form	Code 03. Place to purchase	Code 4. Reason to choose place of purchase	Code 5. Frequency of purchase
1. alive 2. Pluck, fresh 3. Cool (not packed and not stamped) 4. Cool (packed and stamped) 5. Frozen, packed and stamped 6. Roasted/Boiled 7. Others (specify).....  <b>For eggs:</b> 8. Package 9. Without package	1. Cheaper price 2. Safety 3. Freshness 4. Cooking convenience 5. Other (specify)..... ...	1. Own production 2. Gift 3. Directly purchase from farmers 4. Street vendor 5. Market stalls 6. Supermarkets 7. Poultry Store 8. Groceries store 99. Other (specify)...	1. Safety 2. Convenience 3. Cheaper price 4. Trusted seller 5. By habit 6. Near home 7. Honest scale 8. Neat and clean 9. Product diversity 99. Others (specify).....	1. (Ex: 2-3days between 2 purchases) 2. Special occasion 3. Never

## F. COMPARE POULTRY CONSUMPTION BEFORE AND AFTER AI

Q26. Generally, the poultry quantity consumed now in your family in comparison with before AI is:

1. the same
2. increase. By how many percent? / \_\_\_\_\_ / %
3. decrease. By how many percent? / \_\_\_\_\_ / %

Q27. Please specify 3 main reasons for changes in quantity and rank them

Reasons (1)	3 main reasons (2)	Rank 1: most important 2. second important 3. third important (3)
Afraid of bird flu		
Afraid of obesity		
Price is high		
Frozen poultry is not delicious		
Get used to not eating poultry during AI		
Other (specify) .....		

Q28. Where were your places to purchase poultry products before AI? and now? (Mark ✓ on the corresponding place) What are the reasons for the change of purchasing place, if any?

Place to purchase	Before AI	After AI	Reason of changes (if Before AI differ from After AI)- Code 6
1. Own production 2. Gift 3. Directly purchase from farmers 4. Street vendor 5. Market stalls 6. Supermarkets 7. Poultry Store 8. Groceries store 99. Other (specify)...			
<i>Code 6- Reason of purchasing place changes</i>			
1. Safety 2. Convenience 3. Cheaper price 4. Trusted seller	5. By habit 6. Near home 7. Honest scale	8. Neat and clean 9. Product diversity 99. Others (specify)... ..	

Q29. Which forms of product did you purchase poultry before AI? and now? (Mark ✓ on the corresponding place) What are the reasons for the change of product form, if any?

Code 1. Form of Product	Before AI	After AI	Reason changes (if Before AI differ from After AI)- Code 7
<b>For Poultry</b> 1. alive 2. Pluck, fresh 3. Cool (not packed and not stamped) 4. Cool (packed and stamped) 5. Frozen, packed and stamped 6. Roasted/Boiled 7. Others (specify)..... <b>For eggs:</b> 8. Package 9. Without package			
<i>Code 07 – Reason of product form changes</i>			
1. Cheaper price 2. Safety	3. Freshness 4. Cooking convenience	5. Not available 6. Other (specify).....	

Q30. How can you recognise safety of poultry products?

1. visual inspection	5. self-raise
2. trust to seller	6. Do not know
3. brand name of processor	7. See expiry date
4. signs of quarantine	99. Others ( <i>specified</i> ).....

Q31. Do you know any trademark? 1. Yes 2. No

Q32. If yes, which trademark do you know?

.....  
 .....

Q33. **When purchasing at poultry shop,**

Do you choose any trademark? 1. Yes 2. No

Q34. If YES, what trademark and kind of poultry product do you choose from this trademark?

Trademark	Chicken	Duck	Chicken eggs	Duck eggs
1.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
99. Other.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Q34. Why do you choose this trademark? .....

Q35. **When purchasing at supermarket,**

Do you choose any trademark? 1. Yes 2. No

Q36. If YES, what trademark and kind of poultry product do you choose from this trademark?

Brand name	Chicken	Duck	Chicken eggs	Duck eggs
1.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Q37. Why do you choose this trademark? .....



Q38. **When purchasing at market,**

Do you choose any trademark? 1. Yes 2. No

Q39. If YES, what brand name and kind of poultry product do you choose from this trademark?

Trademark	Chicken	Duck	Chicken eggs	Duck eggs
1.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
99. Other.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Q40. Why do you choose this trademark? .....

## G. PRICE AND QUANTITY DEMANDED

Q41. Is the price of poultry now reasonable and acceptable regarding to your income?

1. Yes 2. No 3. *Other (specify)*\_\_\_\_\_

Q42. Is the price of poultry now reasonable and acceptable regarding to its substitution?

1. Yes 2. No 3. *Other (specify)*\_\_\_\_\_

Q43. How stable the price of poultry is in this year?

1. Very stable 2. Rather stable 3. Not stable 4. Very unstable

Q44. When the price of poultry increases, which kind of substitution do you buy?

1. *Fish* 2. *Pork* 3. *Beef* 4. *Shrimp*  
5. *Vegetable* 6. *Tofu* 7. *Can meet* 8. *Other (specify)*\_\_\_\_\_

## H. CUSTOMERS' TASTE, PRODUCT DIVERSIFICATION AND SATISFACTION

Q45. Do you think the taste of domestic poultry species compared with exotic poultry species is:

1. Better 2. Worse 3. The same 98. No idea

Q46. If worse or better, why?

.....

Q47. Do you think the taste of cooled poultry compared with fresh ones is

1. Better 2. Worse 3. The same 98. No idea

Q48. If worse or better, why?

.....

Q49. Have you recently purchased alive chicken? 1. Yes 2. No

If no, why not?

.....

Q50. Compare with before AI, the diversity of form of package now is

1. More            2. Less            3. The same            98. No idea

Q51. Do you think that poultry products need package and label?

1. Yes            2. No            98. No idea            99. Other.....

Q52. (If yes/no) Why or why not?

.....

Q53. Do you think that poultry retailers need fridge, chilling box?

1. Yes            2. No            98. No idea            99.

Other.....

Q54. (If yes/no) Why or why not?

.....

Q55. Do you think that we need box and label for eggs?

1. Yes            2. No            98. No idea            99. Other.....

Q56. (If yes/no) Why or why not?

.....

Q57. If poultry are sold with package and label and the price is **10%** higher than now, will you purchase

1. Yes            2. No            3. No idea            99. Other.....

Q58. If YES, If poultry are sold with package and label and the price is **20%** higher than now, will you purchase

1. Yes            2. No            3. No idea            99. Other.....

Q59. If YES, If poultry are sold with package and label and the price is **30%** higher than now, will you purchase

1. Yes            2. No            3. No idea            99. Other.....

## I. RESPONDENT'S IDEAS ABOUT POULTRY QUALITY AND SAFETY CONTROL

Q60. Do you think that the government intervention for AI control have assured consumers' safety?

1. Yes                                      2. No                      3. No idea

Q61. (If yes/no) Why or why not?

.....

Q62. Do you think that stamped eggs/poultry at markets are safe?

1. Yes                                      2. No                      3. No idea

Q63. (If yes/no) Why or why not?

.....

Q64. Which is your suggestion to the government and processing places in order to help increase your consumption of poultry products?

.....

Q65. What is your suggestion to improve the product safety for the consumers

.....

## J. SOURCE AND LEVEL OF INFORMATION

Q66. In the two recent years, have you...

	...seen or heard recommendations on <b>food safety</b> in [...]?	...seen or heard recommendations on <b>chicken safety</b> in [...]?
1. Television	<input type="checkbox"/>	<input type="checkbox"/>
2. Radio	<input type="checkbox"/>	<input type="checkbox"/>
3. Newspaper	<input type="checkbox"/>	<input type="checkbox"/>
4. Billboards, brochure	<input type="checkbox"/>	<input type="checkbox"/>
5. Internet	<input type="checkbox"/>	<input type="checkbox"/>
6. Relatives, neighbour	<input type="checkbox"/>	<input type="checkbox"/>
99. Doctor/health care professional		

## K. INCOME AND EXPENSE ON FOOD

Q67. Expense on food, how much do you spend for food per month in your family?

/\_\_\_\_\_ / RP/month)

Q68. Information on your assets and of the group taking meals with you in the family.

<b>Do you have ....?</b>	<b>Numbers</b>
Refrigerator	
Gas stove	
Television	
Telephone	
Computer	
Motorbike	
Formal health insurance	

Q69. How much is your monthly household's income?

Income range (RP/1 month/1 household)	
< 1, 000,000	
1, 000,000 - < 3, 000,000	
3, 000,000 - < 5, 000,000	
5, 000,000 - < 7, 000,000	
7, 000,000 - < 9, 000,000	

--- Thank you very much for your time today!!! ---