

**INDOCHINA RESEARCH**

# Avian Influenza - Knowledge, Attitudes and Practices (KAP) Study of Backyard Poultry Farmers in Laos

June 2011

Prepared by: Indochina Research (Laos) Limited  
Prepared for: AED  
Vientiane, Laos

# TABLE OF CONTENTS

EXECUTIVE SUMMARY .....	4
OVERALL KEY FINDINGS .....	4
OVERALL KEY BEHAVIOURS .....	5
A/H5N1 AND A/H1N1 CAMPAIGNS .....	6
SAVANNAKHET .....	7
HOTLINE 166 .....	7
IMPLICATIONS AND RECOMMENDATIONS .....	7
<b>1. OBJECTIVES &amp; METHODOLOGY.....</b>	<b>9</b>
1.1 BACKGROUND AND OBJECTIVES OF RESEARCH .....	9
1.2 SAMPLING & SURVEY METHODOLOGY .....	10
<b>2. BACKYARD POULTRY FARMERS.....</b>	<b>11</b>
2.1. DEMOGRAPHICS – GENDER, AGE, INCOME & EDUCATION .....	11
2.2. MAIN DECISION-MAKER IN POULTRY-TENDING, BUYING, SELLING.....	11
<b>3. FARMING HABITS.....</b>	<b>12</b>
3.1. ADULT POULTRY & OTHER FARMING ACTIVITIES.....	12
<b>4. POULTRY-RAISING HABITS .....</b>	<b>14</b>
4.1. MAIN PERSON TENDING POULTRY IN THE HOUSEHOLD.....	14
4.2. POULTRY TENDING .....	14
4.3. ENCLOSURE OF POULTRY .....	15
4.5 FREQUENCY OF CLEANING POULTRY ENCLOSURES – CHICKENS AND DUCKS .....	16
4.7 FREQUENCY OF WASHING & CLEANING .....	17
<b>5. AWARENESS OF AVIAN INFLUENZA.....</b>	<b>18</b>
5.1. KNOWLEDGE OF AVIAN INFLUENZA.....	18
5.2. WAYS OF SPREADING AI AMONG POULTRY .....	19
5.3 AI INFORMATION SOURCES.....	20
5.4. AWARENESS OF AI & ITS SYMPTOMS: CHICKEN VS. DUCK .....	22
5.5. AI IN HUMANS.....	22
<b>6. CURRENT SPECIFIC PRACTICES.....</b>	<b>23</b>
6.1. REPORTING OF AI OUTBREAK AMONG POULTRY.....	23
6.3. PREVENTION MEASURES – KNOWLEDGE & REPORTED PRACTICE.....	24
<b>7. AI PAST EXPERIENCE.....</b>	<b>26</b>
7.2. EXPERIENCE OF SICK POULTRY FROM AI WITHIN PAST 2 YEARS.....	26

7.3. MEASURES TAKEN WHEN POULTRY IS SICK .....	27
<b>8. MEDIA.....</b>	<b>28</b>
8.1 AI ADS SEEN IN THE PAST 6 MONTHS .....	28
8.2 SOURCE OF AI ADS .....	29
8.3 AI Ad RECALL.....	29
<b>9. A/H1N1 AND A/H5N1 .....</b>	<b>31</b>
9.1 SEASONAL INFLUENZA AWARENESS AND A/H5N1 INFLUENZA AWARENESS.....	31
9.2 AWARENESS OF HOW A/H5N1 CAN SPREAD .....	32
9.3 A/H1N1 INFLUENZA IN LAOS.....	32
9.4 EVER DIAGNOSED WITH A/H1N1 INFLUENZA .....	33
9.5 KNOWLEDGE ABOUT A/H1N1 SYMPTOMS.....	34
9.6 WAYS TO PREVENT THE SPREAD OF A/H1N1 .....	35
9.7 WAYS TO PREVENT THE SPREAD OF A/H1N1 .....	36
9.8 VACCINATION FOR A/H1N1 .....	38
9.9 EXPOSURE TO A/H1N1 PROGRAM INTERVENTION .....	41
9.10 EXPOSURE TO SPECIFIC EDUCATION MATERIALS.....	43
<b>ANNEX 1 – SAMPLING METHODOLOGY FOR SELECTING SURVEY LOCATION .....</b>	<b>45</b>
SAMPLING PROCEDURES USED DURING THE KAP BASELINE (2006) .....	45
PROCEDURES FOR THE KAP 2 EVALUATION SURVEY (2007) .....	45
PROCEDURES FOR KAP 3 EVALUATION SURVEY (2009) .....	45
PROCEDURES FOR KAP 4 EVALUATION SURVEY (2011) .....	45
<b>ANNEX 2 – 2011 QUESTIONNAIRE (ENGLISH) .....</b>	<b>46</b>

## EXECUTIVE SUMMARY

In order to evaluate the AI program, a baseline Knowledge Attitude and Practise (KAP) study was conducted in 2006 prior to project implementation. Further studies have been conducted in 2007, 2009 and this latest survey in 2011. The current study expanded the coverage to include Phongsaly and Attapue provinces in addition to previously covered provinces of Vientiane, Luang Prabang, Savannakhet and Champasak with a total sample size of 1,440 backyard poultry farmer households.

The same methodology was use for all 4 studies. The Probability Proportionate to Population Size (PPS) sampling method was used to randomly select 4 districts within each province, 24 villages within each selected district and 10 households within each village yielding 240 interviews from each province. Randomly selected households were screened to ensure they “raise poultry at your home now, or had raised poultry within the past year” and have between 10 and 100 adult chickens or ducks at their farm. The main decision maker regarding poultry care was selected for interview within households.

### Overall Key Findings

There has been a significant decrease in AI stories seen on TV compared with the three previous surveys. Radio is more often cited source of AI information in 2011 compared with TV and other sources. AI mobile teams have had a significant impact as a source of information for poultry farmers and these efforts are recommended to be maintained and may have ongoing impact for A/H1N1 awareness and knowledge building. Posters in public places and at health centres, as well as flyers and brochures are being cited as sources of information about AI.

Knowledge of AI symptoms remains high for both poultry and humans, although there has been a decrease in recall for all the key methods of poultry to human transmission. AI knowledge is at it's highest since surveying began in 206 about sudden death, and sudden death in large numbers as being an indicator for AI amongst poultry stock.

Apart from Savannakhet, there has been a significant increase in the poultry farmer practices to protect poultry against AI (Indicator 3) – practicing at least 3 ways to protect poultry against AI, as well as protecting themselves and their family against AI (Indicator 4) – practicing at least 3 ways to protect themselves and their family against AI.

Cases of poultry falling sick or dying on farms from AI has increased in the past 2 years to highest levels yet and is likely influenced by possible outbreaks in the two new provinces of Phongsaly and Attapue. Expanding AI and A/H1N1 education activities to these areas is recommended and supported by the research.

Success can also be seen with regard to how poultry farmers are now managing their poultry when sick. Most farmers will now report sick or dying poultry to the local vet or the local authority. Further, poultry farmers are now significantly less likely to bury dead bird without reporting than at any time since studies began in 2006. Attention is required in Phongsaly and Attapue advising poultry farmers of the actions to take when they have sick or dying poultry is encouraged.

In 2011, there has been a significant decrease in the aided recall of AI messages since 2007 and 2009 survey rounds. This may be due to a reduction in number of broadcast messages within the past few months. Information received from ads is generally about cleaning and washing to prevent AI, touching poultry, followed by reporting sick or dying poultry and what to do or not do with sick poultry.

### Overall Key Behaviours

With regards to poultry-tending, females are more commonly found to be the main person caring for poultry as was found in previous years. Most farmers generally don't enclose the poultry. Among some farmers, the poultry is enclosed occasionally and otherwise allowed to roam freely. A very small percentage of farmers generally enclose poultry all or most of the time – a trend that is generally seen in Vientiane and Champasak for chickens and Luang Prabang for ducks. The farmers generally enclose the poultry in cages – pens and fences are rarely used. Savannakhet, which in the previous wave had maximum usage of pens and fences, now has the lowest usage of these enclosures and maximum usage of cages, especially for chickens and ducks.

The main reason for not enclosing chickens and ducks is allowing them to find food. Other reasons include expensive materials and a lack of space (the latter is a major problem in Luang Prabang). Most farmers clean poultry no more than once a month. In most cases (84%) poultry feces is still lying on the ground outside the area where the poultry is kept, only a small decline from 91% of case in 2007. Also, poultry is generally (91%) left free and can go outside – this situation has worsened in Luang Prabang and Champasak. Vientiane leads with regards to chickens and ducks kept in enclosed spaces.

Most farmers frequently wash their hands after handling poultry (although this has decreased from 93% in 2007 to 80% in 2009). Also, there has been a drastic decrease with regards to changing clothes after handling poultry since 2007 (now 38% of the farmers never follow this practice compared to 27% in 2007).

## A/H5N1 and A/H1N1 Campaigns

Awareness of A/H5N1 influenza is high amongst the poultry farmers with almost nine in ten (87%) poultry farmers indicating they were aware of the strain, knew that it can spread from poultry to humans and from humans to humans. Levels of awareness of A/H1N1 (59%) are lower than for seasonal influenza and A/H5N1, and there are differences between the provinces with Savannakhet and Champasak trailing the highs of the other provinces.

Almost all poultry farmers who are aware of A/H1N1 think that people in Lao have had the illness. Two percent of poultry farmers indicated that they themselves had been diagnosed with A/H1N1 influenza and three percent know of others who had been diagnosed with A/H1N1 influenza. Half of the poultry farmers knew the symptoms of A/H1N1 with fever, headache, stuffy or runny nose and cough being key symptoms. Poultry farmers indicated that keeping separate from somebody who is coughing or sneezing, washing hands with soap and water, and covering when coughing or sneezing as ways to prevent the spread of A/H1N1.

Three out of four poultry farmers were aware of A/H1N1 vaccination, and one in two had received the vaccination. Almost all who had not been vaccinated indicated a willingness to be vaccinated. There is confusion surrounding the effectiveness over time of the A/H1N1 vaccination.

A/H1N1 program intervention via mass media – particularly Lao and Thai television, has been very successful with nine in ten poultry farmers indicating they had ever received information about A/H1N1. Additionally male poultry farmers cited radio as a source of information about A/H1N1, while female poultry farmers described word of mouth channels with neighbours and friends as source of information about A/H1N1.

The educational pamphlets “clever before catching the flu”, “treatment of people with flu’ and “preventing yourself and others” were the most successful of the IEC materials in this regard with one in two poultry farmers indicating they had seen these. Somewhat fewer had been exposed to the “knowledge about A/H1N1” educational pamphlet. Distribution to, and or exposure to A/H1N1 educational materials was lowest amongst Savannakhet poultry farmers where only one in five poultry farmers had seen any of the educational pamphlets.

## Savannakhet

Savannakhet continues to be a province requiring dedicated attention as the knowledge and practices of poultry farmers is significantly lower than the other five provinces. Exposure to AI messages is lower here than the other provinces, poultry farmers indicate a lower propensity to report AI outbreaks in the area and while there has been a significant increase since 2006, only one in five (19%) poultry farmers in Savannakhet now practice at least 3 ways of protecting their poultry, up from 0% in 2006, the results are significantly lower than results for poultry farmers in all other provinces.

Savannakhet is also the only province to see a decline, since 2009, in awareness of AI as well as in practices to protect themselves and their families from AI. All other provinces have seen a continued and steady increase in the proportion of farmers who indicate they practice at least 3 ways to protect themselves and their families from AI. Further, Savannakhet had the lowest incidence of a place where family members could wash their hands.

## Hotline 166

While almost all poultry farmers indicated that they have a telephone, the Hotline 166 initiative does not appear to be resonating with poultry farmers. There is a negligible awareness and access of this service, with poultry farmers indicating that they primarily report and consult to local authorities and animal health workers rather than the hotline. This likely indicates that the farmers see more solutions and action oriented outcomes when dealing with authorities in person in the area. From the research, it is recommended that the Hotline either be re-positioned to support remote and rural level authorities as a central reporting and support mechanism, or be ceased and efforts focused elsewhere.

## Implications and Recommendations

The BCC program with backyard poultry farmers is having success, and can be particularly noted when looking at the impact of the A/H5N1 and A/H1N1 campaigns. Expanding the initiative to the two new provinces of Phongsaly and Attapue will likely see continued knowledge gains and improvements in practices yielding overall greater results and impact.

Reinforcing messages about keeping poultry are encouraged in the original study provinces. Sourcing alternative (and) lower cost materials that can be applied to the improvement of poultry enclosures is also recommended. Addressing the cost of feed continues to be an issue.

Overall exposure to A/H1N1 educational materials is already good with one in two poultry farmers indicating they had seen three of the four pamphlets. Exposure to A/H1N1 educational materials amongst Savannakhet poultry farmers is low and

highlights an ongoing challenge for promoting safer poultry and A/H1N1 protection practices required in this province.

A review of strategies for Savannakhet needs to be considered and may involve installing water and washing facilities within the household plot as well as some qualitative exploration and observation of practices.



# 1. OBJECTIVES & METHODOLOGY

## 1.1 Background and Objectives of Research

It has been recognised that to control the spread and risk of highly pathogenic avian influenza (H5N1) adapting to humans and causing a pandemic that it is essential to control the outbreak amongst poultry. Lao PDR has experienced avian influenza outbreaks in 2006, in five provinces, namely Vientiane municipality, Vientiane Province, Savannakhet Province, Champasack Province and Xiengkoung Province in 2007 in which there was loss of human life due to highly pathogenic avian influenza was , Luang Nam Tha and Luang Prabang 2008 and in Phongsaly, Oudomxay and Xayaboury provinces in 2009.

In response to highly pathogenic avian influenza the Government of Lao PDR developed a National Avian Influenza Control and Pandemic Preparedness Plan covering the years 2006-2010 and set up the National Emerging Infectious Diseases Coordination Office (NEIDCO) to oversee and implement the Plan.

To evaluate communication activities NEIDCO conducted a Knowledge, Attitude and Practices (KAP) survey among backyard poultry farmers in Lao to:

- 1) Assess the KAP of the rural backyard poultry farmers on prevention and containment of Avian Influenza, and
- 2) Evaluate the impact on knowledge and behavioural change of the farmers after several waves of communication activities.

Several KAP surveys have been conducted in 2006, 2007 and 2009 by AED, CARE, UNICEF and NEIDCO while this end-line KAP in 2011 is aimed to expand the scope with the addition of two provinces, namely Phongsaly and Attapue, to get a more representative cross section of rural and remote areas of the country to conduct trend analysis over time.

Further, in 2011 information has been collected to inform NEIDCO and partners regarding education communication campaigns related to A/H5N1 and A/H1N1.

## 1.2 Sampling & Survey Methodology

A similar (although not identical) questionnaire was used for the current survey round as was used in earlier KAP study rounds in order to obtain quantitative information that was comparable.

- ◇ Survey Locations: 6 key Lao provinces (4 of the same provinces as surveys in 2006, 2007 and 2009) plus the addition of Phongsaly and Attapue.
  - 2 North Province – Luangprabang and *Phongsaly*
  - 1 Central – Vientiane Capital
  - 3 South – Savannakhet, Champasak and *Attapue*
- ◇ Target Group: rural backyard poultry farmers in each province who are the primary decision makers on their farm regarding animal purchase, treatment and husbandry practices. No specific age and gender quotas will be applied.
- ◇ Sample Size: details of the sample are as follows:
  - Lao PDR: Total N=1,440 across 6 Provinces
    - 24 districts (4 per province), including same 16 districts as previous
    - 144 villages, including 96 surveyed in previous rounds.
    - 10 households selected from within each village
    - N=240 interviews per province
  - Sampling Method: Probability Proportionate to Size (PPS) method was deployed for the current Endline study to select districts and villages. This was the same procedure used in previous survey rounds including the Baseline survey in 2006, and follow up surveys in 2007 and 2009.
    - The same 4 provinces were selected as previously, with the addition of Phongsaly and Attapue as it is understood that A/H1N1 BCC program will be expanded to include these locations in the next program cycle.
    - A total of 24 districts were selected, including same 16 districts that were surveyed in previous rounds
    - A total of 144 villages were selected including the same 96 villages surveyed in previous rounds.
    - 10 households were randomly selected for interview within each village.

Data Collection Method: Face to face interviewing at households was deployed for the study. Interviewers filled in a questionnaire recording respondent answers. The interviews were between 45-60 minutes in duration.

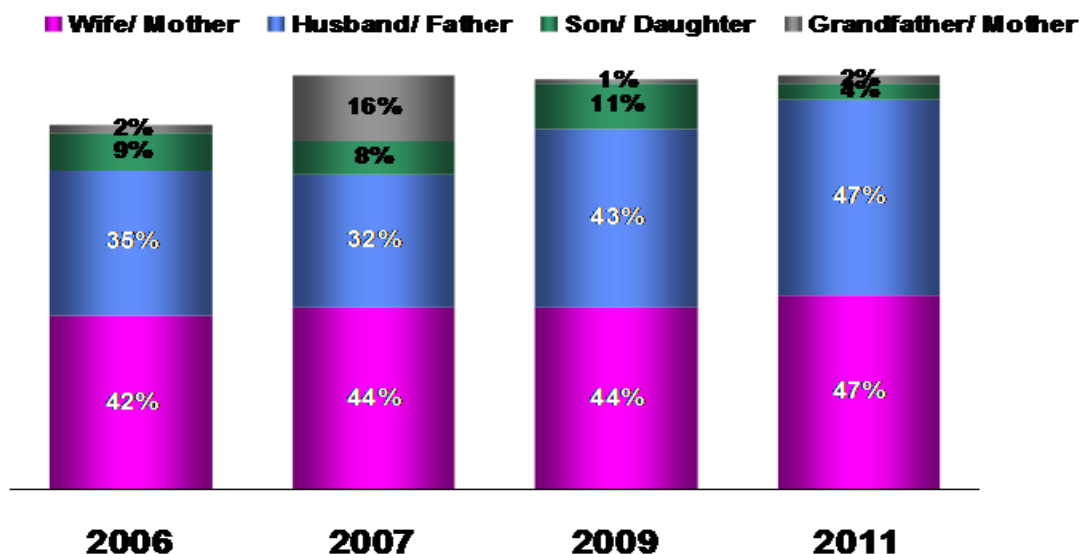
## 2. BACKYARD POULTRY FARMERS

### 2.1. Demographics – Gender, Age, Income & Education

Age	n=960	n=960	n=960	n=1,440
<b>17 and less</b>	1%	1%	0%	0%
<b>18-25</b>	10%	8%	10%	8%
<b>26-34</b>	17%	14%	18%	17%
<b>35-44</b>	26%	24%	24%	25%
<b>45-54</b>	21%	26%	27%	24%
<b>55 and over</b>	25%	27%	20%	26%
Household Monthly income	n=960	n=960	n=960	n=1,440
<b>\$50 and less</b>	45%	24%	24%	28%
<b>\$50 - \$100</b>	30%	35%	28%	27%
<b>\$101 - \$150</b>	11%	19%	20%	16%
<b>More than \$150</b>	12%	22%	28%	26%
Education	n=960	n=960	n=960	n=1,440
<b>No formal schooling</b>	21%	20%	13%	22%
<b>Some primary school</b>	26%	27%	29%	25%
<b>Completed primary school</b>	21%	23%	23%	23%
<b>Some secondary school</b>	16%	14%	17%	15%
<b>Completed secondary</b>	8%	8%	9%	9%
<b>Higher</b>	8%	9%	9%	6%

Women continue to be the main decision makers for buying, selling and keeping poultry in majority of the surveyed households in 2011 with a similar figure to previous 2009 survey of 58%. Almost half (49%) of those surveyed were aged between 35-55 years. One quarter of respondents were aged over 55 years which is similar to results in 2006 and 2007 however is an increase compared with the 2009 survey wave. More than half (55%) of the surveyed poultry famers are earning less than \$100 per month, with a quarter earning more than \$151 per month. More than half (53%) of respondents indicating having completed primary school or higher, while more than one fifth have had no formal schooling whatsoever.

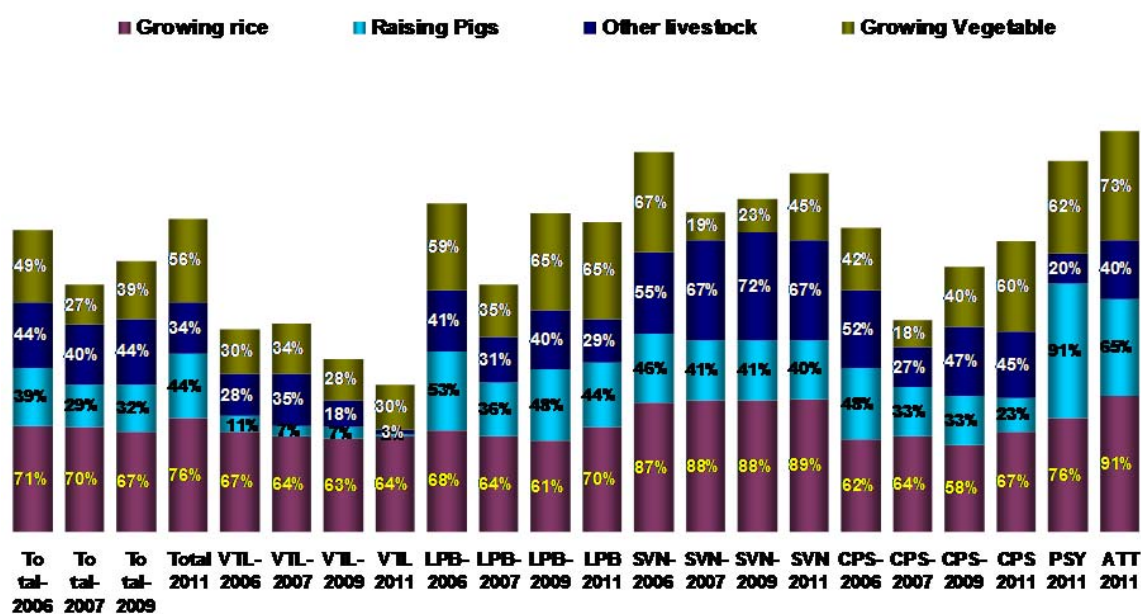
### 2.2. Main Decision-maker in poultry-tending, buying, selling



The buying, selling and decision making concerning how to raise poultry is increasingly been the concern of the head or vice head of the household compared with earlier study waves, and is equally split between the head of the household and the vice head of the household. The incidence of other family members (sons, daughters, grandparents) has decreased since the earlier waves.

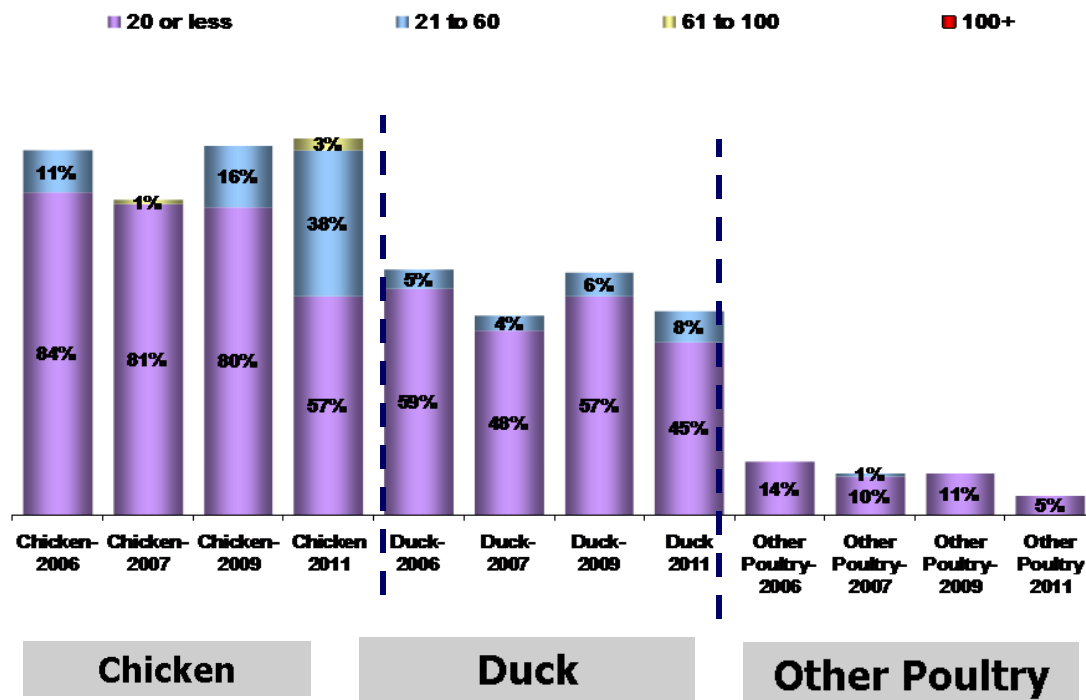
### 3. FARMING HABITS

#### 3.1. Adult Poultry & Other Farming Activities



Apart from raising poultry, many of the households are participating in multiple areas of farming including growing rice, raising pigs and other livestock as well as growing vegetables. There are some distinct differences in the provinces' additional farming activities. For example, while overall, three quarters of the poultry farmers surveyed indicated that they are growing rice, most poultry farmers in Attapue (91%) and Savannakhet (89%) are also growing rice.

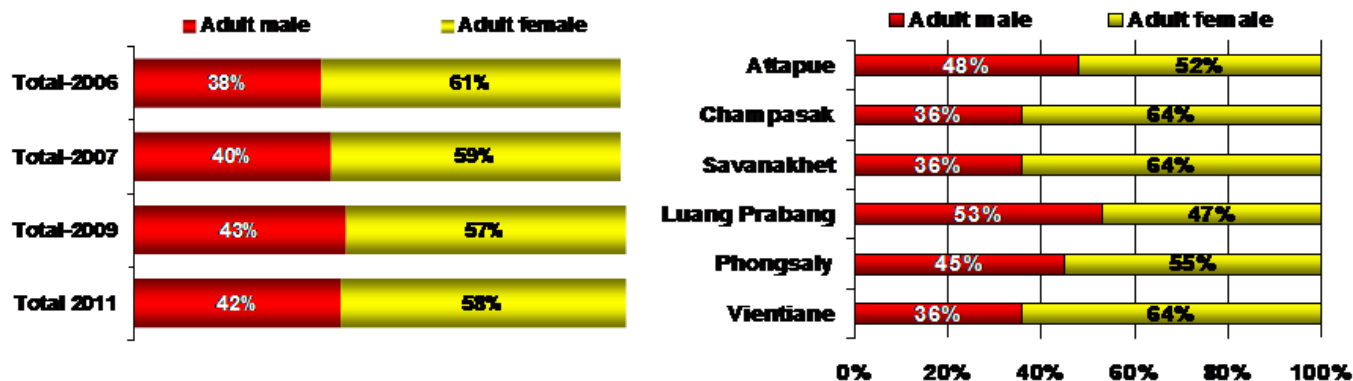
Overall, 44% of poultry farmers are raising pigs, however 91% of poultry farmers in Phongsaly indicated they were also raising pigs. Growing vegetables is also common to poultry farmers with the highest incidence reported in Attapue (73%) and in Luang Prabang (65%). also described growing vegetables as an ongoing farm activity.



There has been a significant increase in the number of farmers currently raising larger poultry stock to between 21-60 chickens from 11% in 2006 to 16% in 2009 and now 38% in 2011. Over time there has been a shift to larger and larger farm size in terms of numbers of poultry being raised and for the first time there are more than 3% of farmers who have between 61-100 chickens. Overall the number of poultry farmers raising ducks has decreased since previous surveys however there is also a tendency to larger sized farms with numbers of poultry being raised at the same time. Reported raising of other poultry continues to decline.

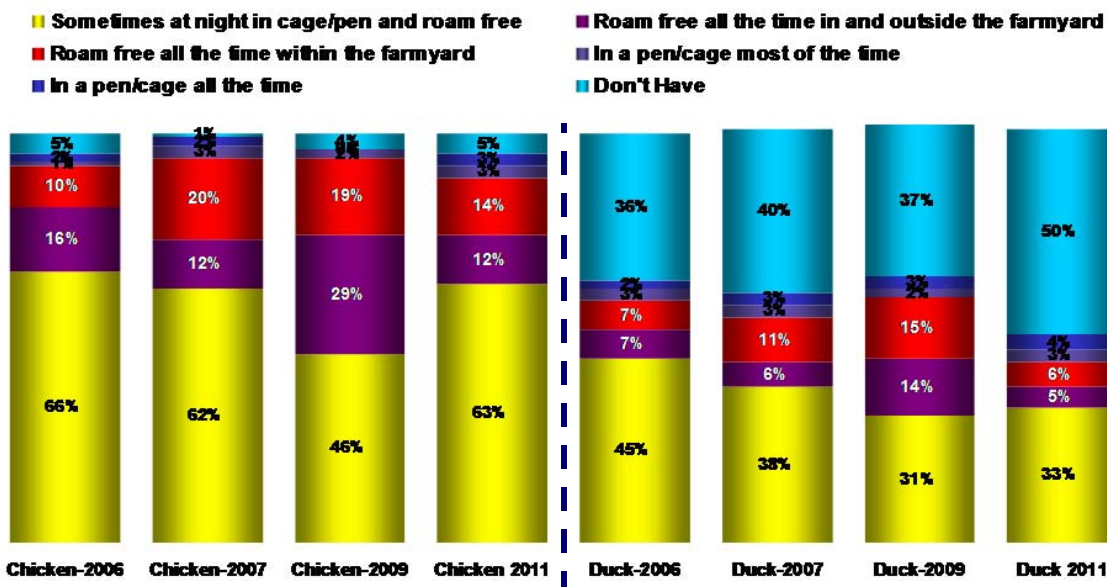
## 4. POULTRY-RAISING HABITS

### 4.1. Main Person Tending Poultry in the Household



Consistent with previous survey waves, adult females continue to be the main person caring for poultry in 2011. Luang Prabang is the only province where there are more men caring for the poultry than females.

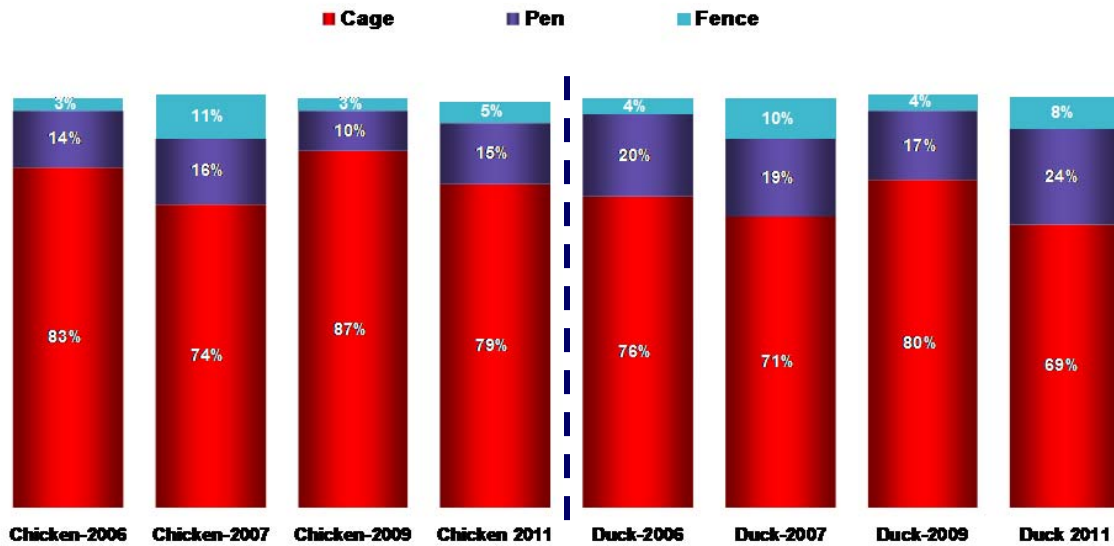
### 4.2. Poultry Tending



A majority of farmers describe chickens as being kept at night in a cage or pen and sometimes roam freely. The reporting of chickens roaming free all of the time in and outside of the farmyard has decreased since previous waves indicating that poultry farmers are being more watchful of their poultry. Very few poultry farmers are keeping their chickens in the cage or pen most or all of the time although there has been an increase in this practice since the previous survey.

One third of poultry farmers who are raising ducks indicated that they keep their ducks sometimes in a cage or pen at night as well as roaming free. These farmers also report lower levels of allowing ducks to roam free all of the time within the farm and outside of the farm compared with previous survey waves.

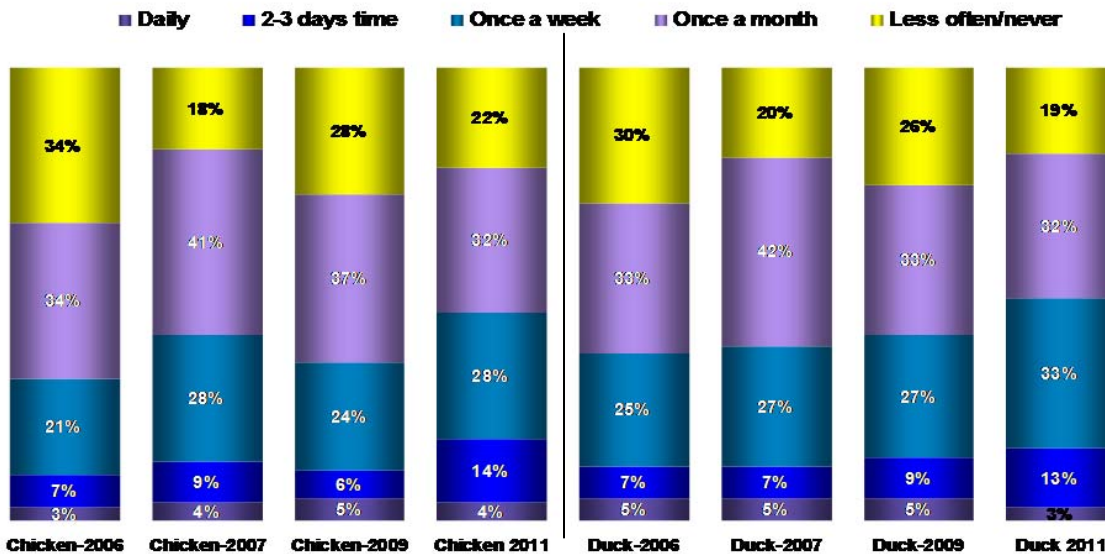
### 4.3. Enclosure of Poultry



While the use practice of keeping chickens and ducks enclosed in cages or pens is low – many poultry farmers describe having access to pens or cages. In the current 2011 survey wave there has been a similar level of reporting of the use of pens with protected sides and open tops compared with the 2006 and 2007 survey waves. Cages are the most widely used for of enclosure.

The main reason for not enclosing chickens and ducks is to allow them to find food. Other reasons include expensive feed, costly material and lack of space which is a huge problem in Luang Prabang.

#### 4.5 Frequency of Cleaning Poultry Enclosures – Chickens and Ducks



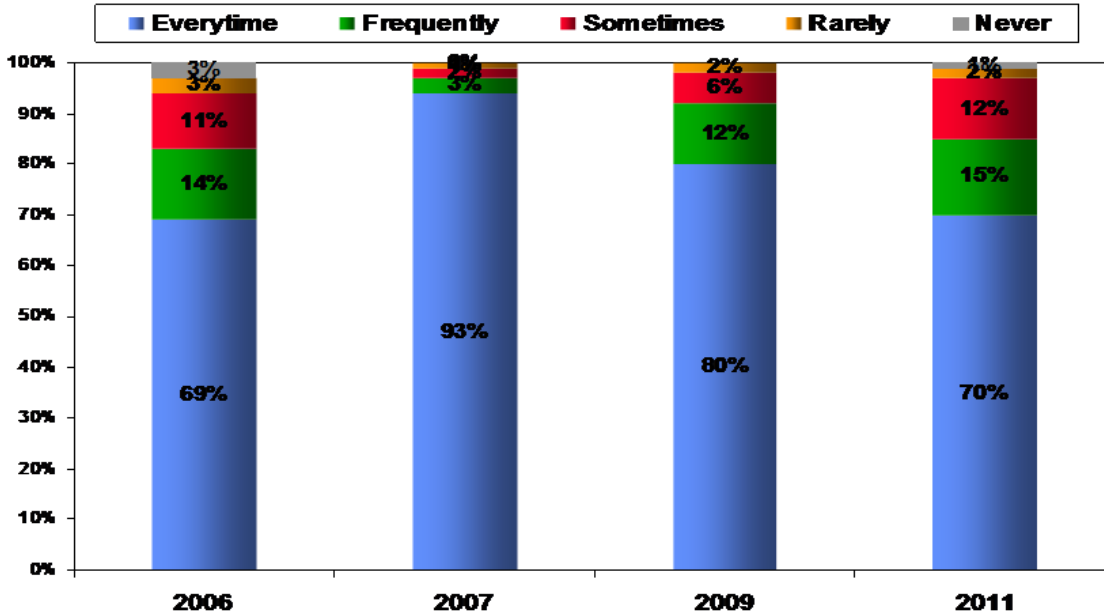
The results indicate that communication efforts promoting more frequent cleaning of cages and pens has been successful. There has been a significant increase in the incidence of both chicken and duck poultry farmers cage and pen cleaning practices, particularly in the 2-3 days at a time segment. There has been no change in the incidence of daily cleaning of cages and pens. Almost half of the poultry farmers raising ducks report cleaning cages and pens at least once a week. Fewer poultry farmers in 2011 are indicating that they never or less often than once a month clean their poultry pens and cages.

There are similar habits with regard to frequency of cleaning cage/pen for both chickens and ducks.



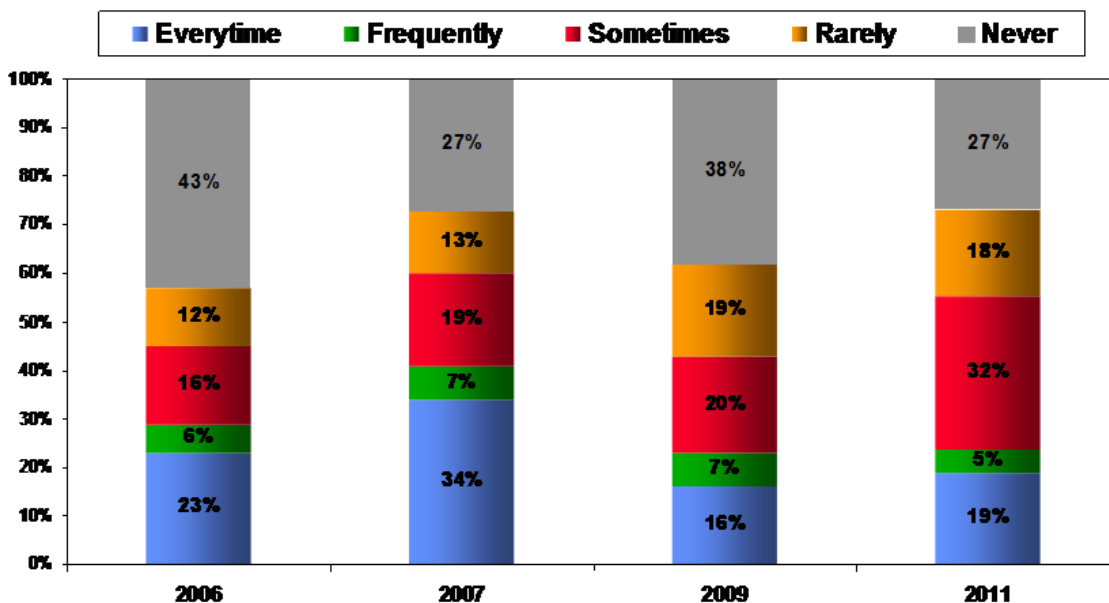
## 4.7 Frequency of Washing & Cleaning

### 4.7.1. Frequency of Washing Hands after Handling Poultry



In 2007, coinciding with an outbreak of Avian Influenza saw the highest levels of reported hand washing after handling poultry. The incidence of washing hands every time after handling poultry has significantly declined in subsequent waves. The two primary beliefs are that it is not important or necessary and a perception that washing hands takes time.

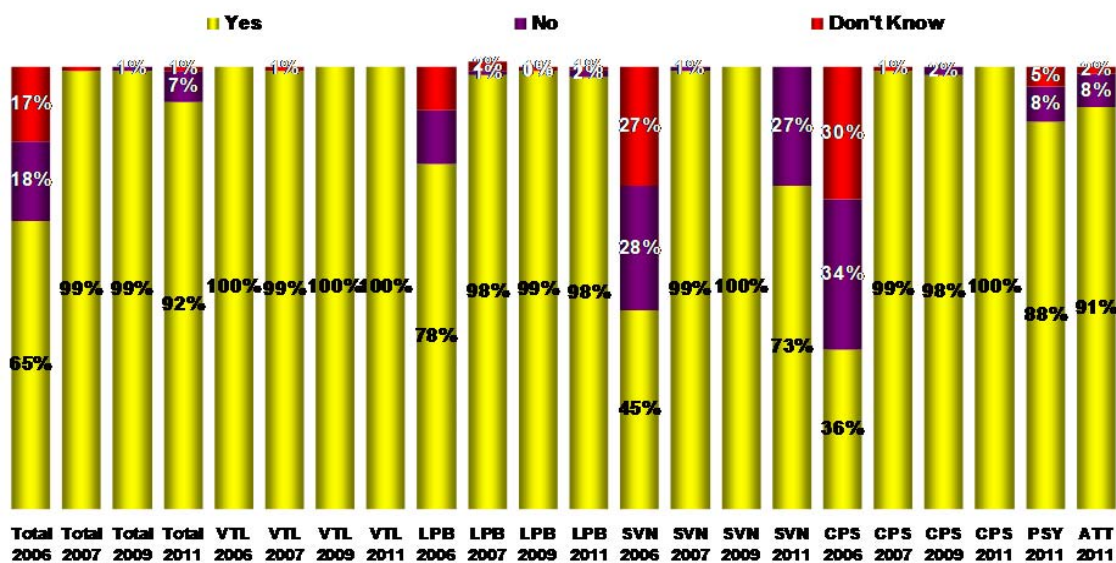
### 4.7.2. Frequency of Changing Clothes after Handling Poultry



Similarly to washing hands practices, farmers are less and less frequently changing their clothes after handling poultry. The reported changing of clothes every time after handling poultry has dropped to less than 20% in 2011 from a high of 34% during the Avian Influenza outbreak in 2007. Poultry farmers do not appreciate the importance of changing clothes every time after handling poultry at this time and also describe time to change as a barrier to change.

## 5. Awareness of Avian Influenza

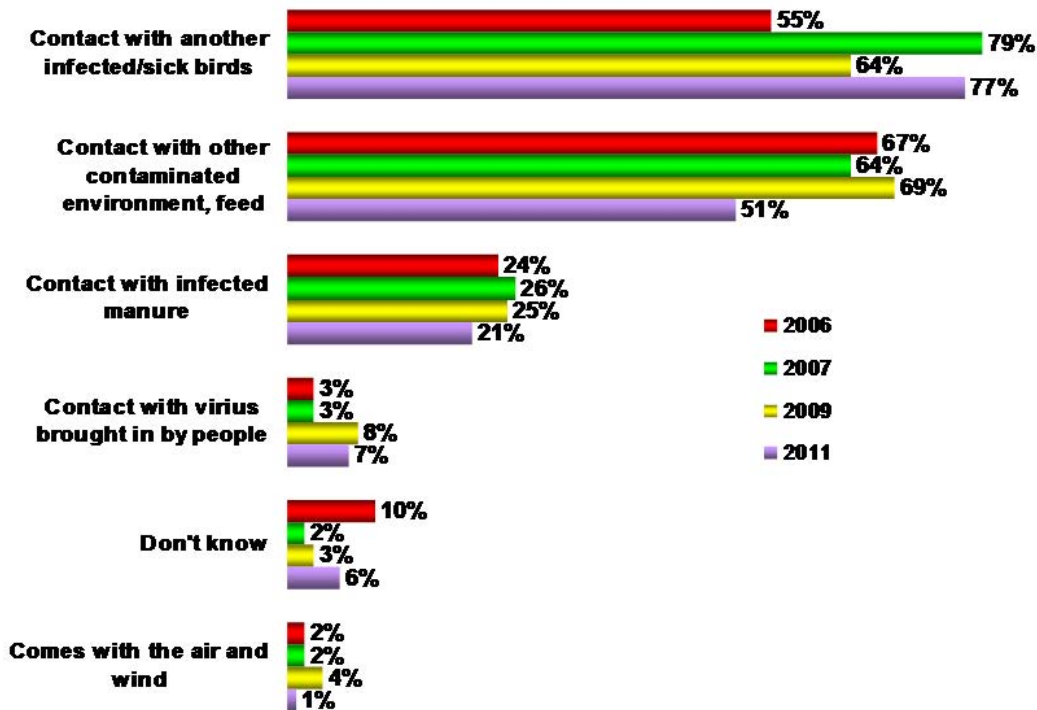
### 5.1. Knowledge of Avian Influenza



Awareness of AI is high amongst poultry farmers across all surveyed areas with all poultry farmers in Vientiane and Champasak being aware of AI. There has been an increase in awareness of AI since the baseline study in 2006. Poultry farmers in the two new provinces surveyed in this round, Phongsaly and Attapue, indicate high awareness of AI.

The results indicate a significant drop in AI awareness amongst surveyed poultry farmers in Savannakhet since the 2007 and 2009 survey waves.

## 5.2. Ways of Spreading AI among Poultry

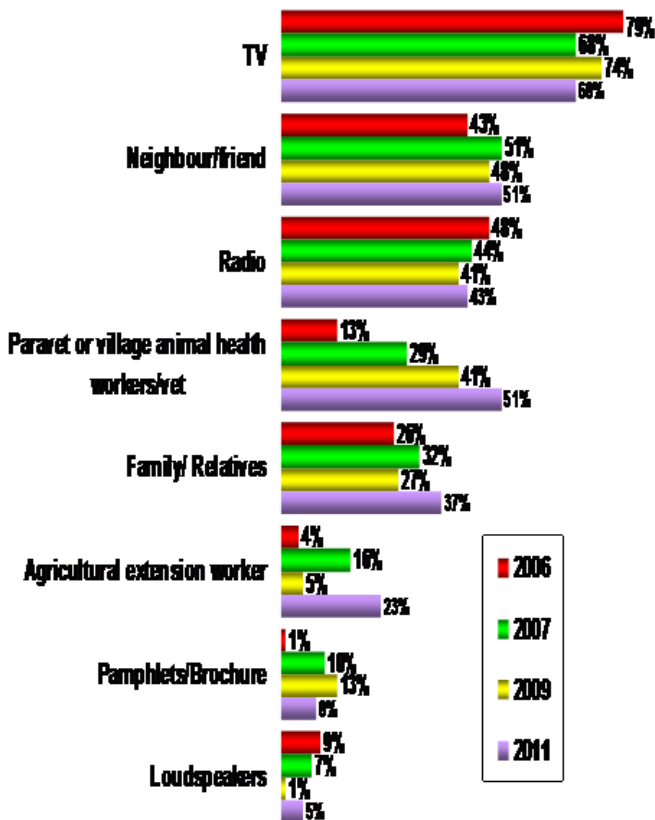


The key mechanisms for how AI is spread is by coming into contact with other infected or sick birds and is at the same level as 2007 during the height of the AI crisis. Contact with other contaminated environment or feed has decreased significantly from two thirds of poultry farmers to a half in 2011. Assuming that this is still a concern and issue for AI it is recommended that messages to reinforce this as a mechanism be developed and rolled out via various channels and probably best by VVW.

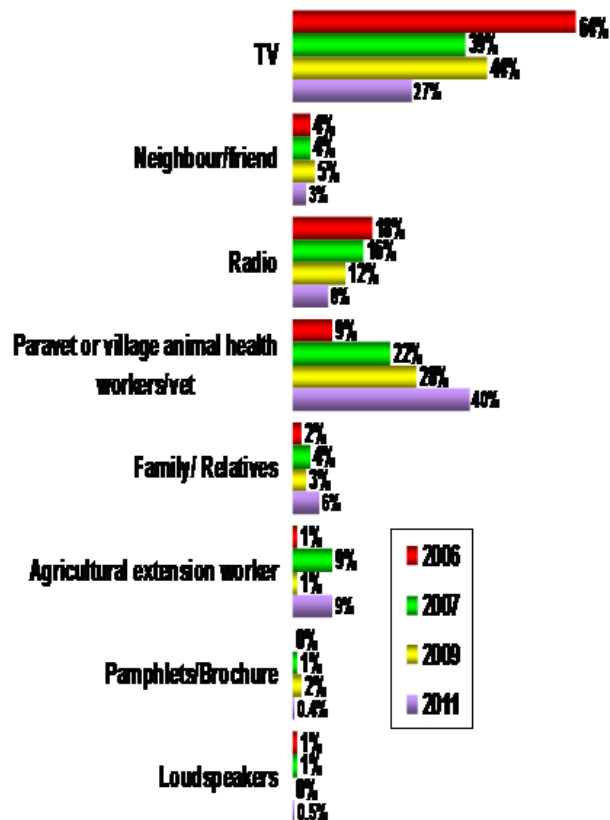
### 5.3 AI Information Sources

#### 5.3.1. Different Source of Information regarding AI – Important & Others

All sources...



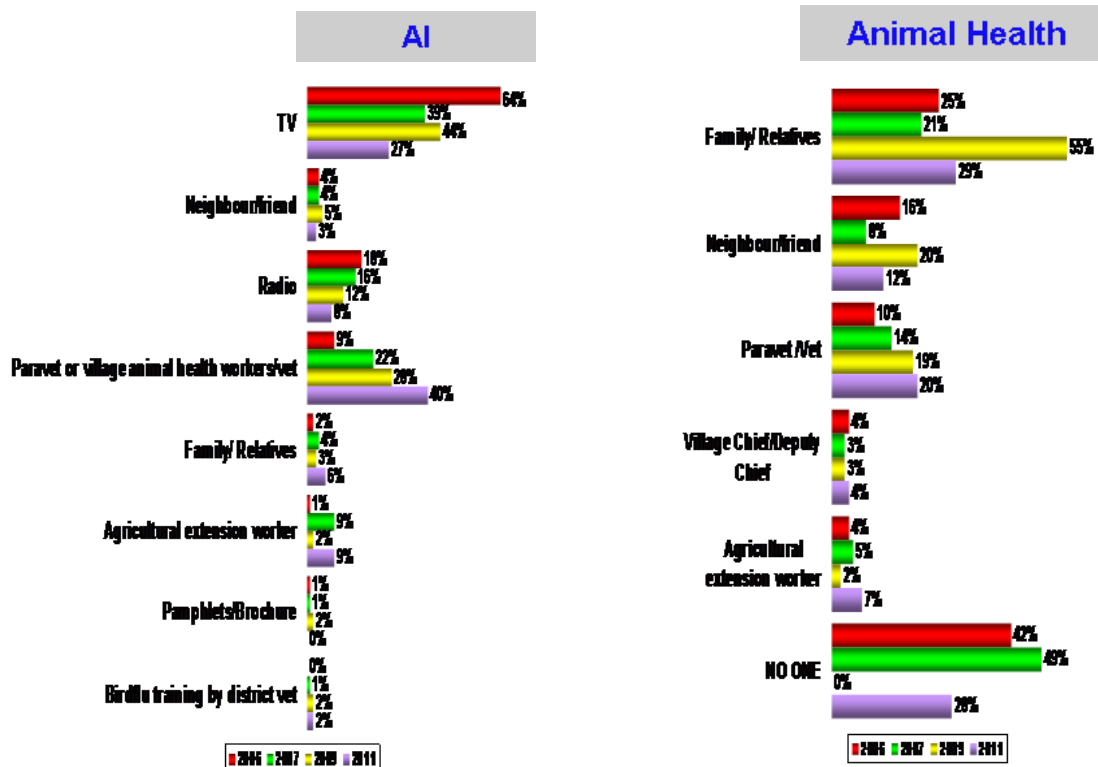
Most important source...



TV continues to be the most often cited source of information regarding AI, however has been displaced by Para-vets / village animal health workers / vets as the most important source of information regarding AI. The reliance on radio as an importance source of AI information continues to decline and is now less than ten percent for the first time.

Continued news stories and information about AI through the media is encouraged to maintain AI awareness in the minds of poultry farmers together with the continued support to Para-vets / village animal health workers / vets efforts to reinforce messages and address questions that will arise from exposure to mainstream media stories, particularly news stories.

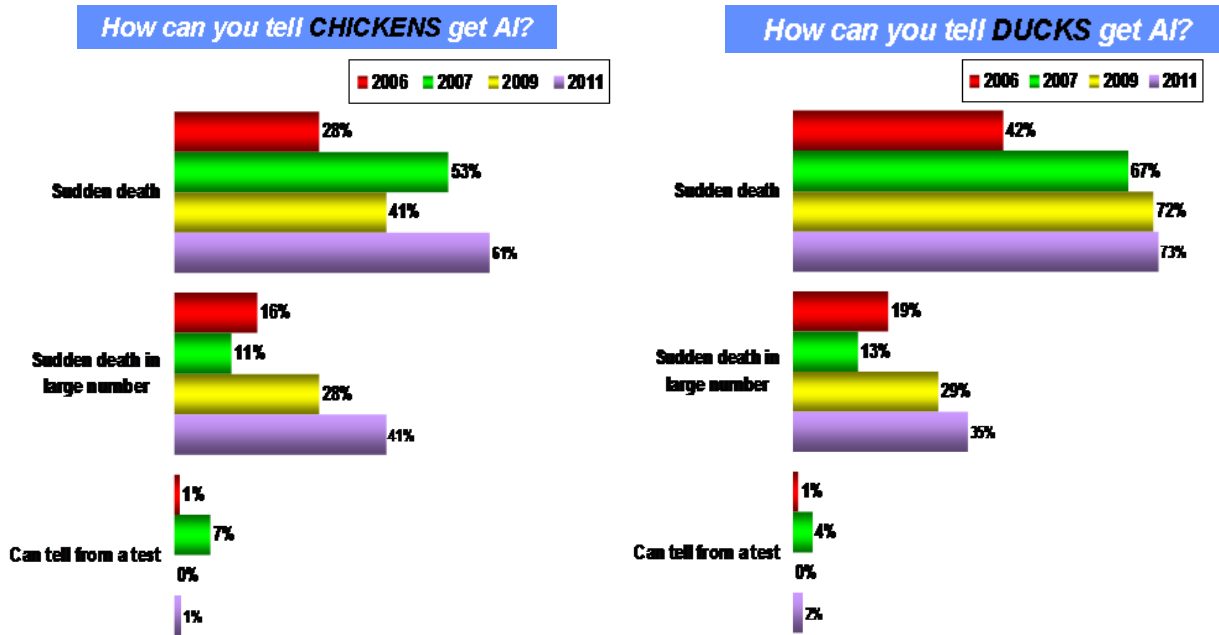
### 5.3.2. Reliable Sources of Information



Para-vets / village animal health workers / vets have displaced TV for the first time as the most reliable source of information concerning AI. TV has declined markedly since earlier waves, likewise radio. While family and relatives are still the most reliable source of information regarding animal health this has declined significantly since 2009 survey wave, however remains higher than in the 2006 and 2007 survey waves.

Mass media sources such as TV and radio are not cited by any poultry farmers at all as the most reliable source of information regarding animal health. More than a quarter of poultry farmers indicate that they rely on no-one as a reliable source of information regarding animal health. Para-vets continue to grow as a reliable source of information regarding animal health. Direct contact sources versus mass media, are the most reliable for matters concerning human health with doctors at health centres / hospitals (40%) are the most reliable source of information regarding human health, followed by nurses or attendants at health centres / hospitals and village health workers.

## 5.4. Awareness of AI & its Symptoms: Chicken vs. Duck

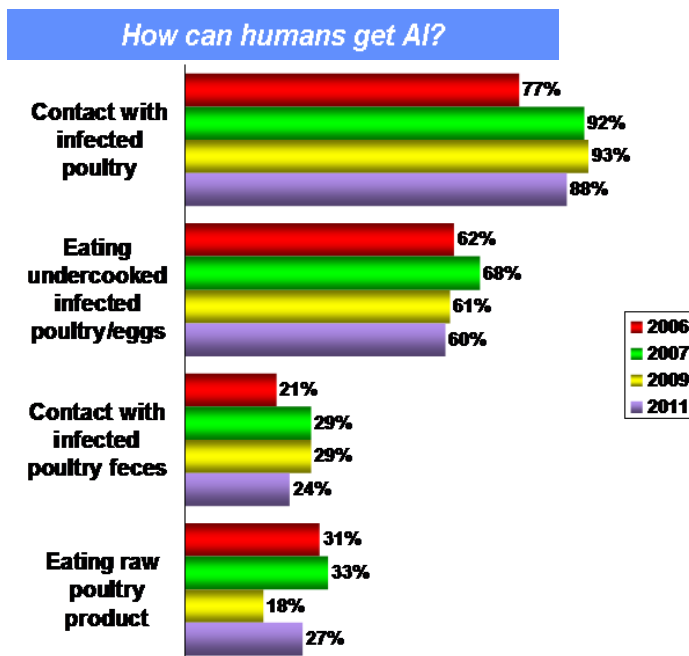


More poultry farmers than in any previous survey wave understand that sudden death and sudden death in large numbers indicates that chickens and ducks have AI. Poultry farmer knowledge that sudden death and sudden death in large numbers are an indication of AI is at an all time high since the program began in 2006.

## 5.5. AI in Humans

Overall, most of the study population is aware of AI in humans.

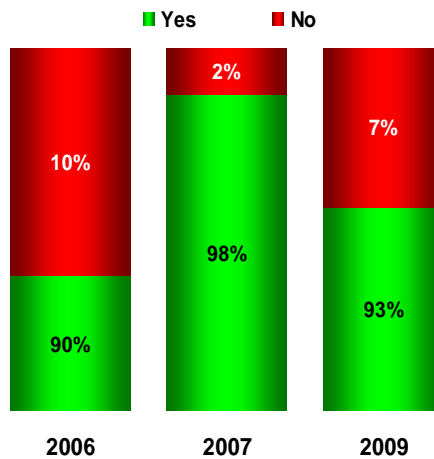
### 5.5.2. Reasons for AI in Humans



Awareness of how humans can get AI remains consistent with previous survey waves. Contact with infected poultry is still cited by poultry farmers as the primary way for humans to get AI. There has been no significant change in knowledge for how humans can contract AI since the 2006 baseline survey.

## 6. CURRENT SPECIFIC PRACTICES

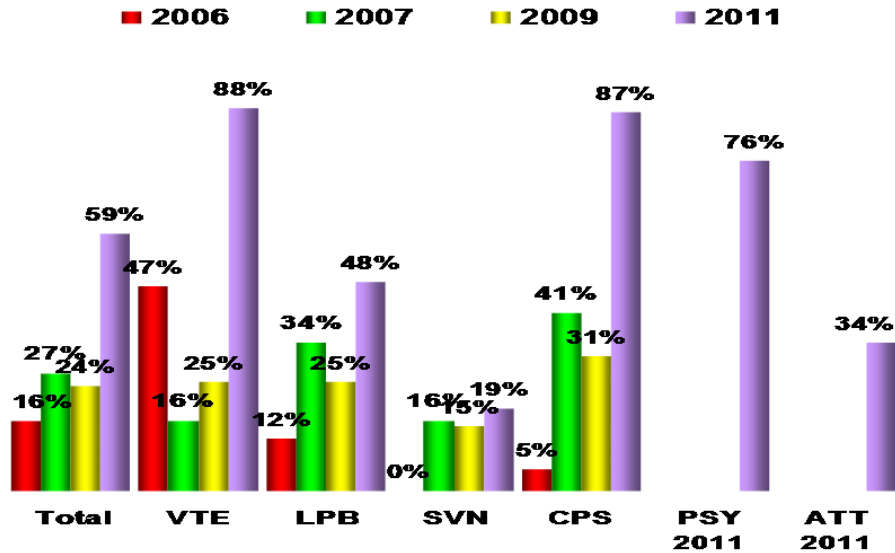
### 6.1. Reporting of AI outbreak among Poultry



Most farmers shall report about AI outbreak in poultry. However, non-reporting farmers have increased in this wave.

### 6.3. Prevention Measures – Knowledge & Reported Practice

#### *Practice at least 3 ways of protecting Poultry*

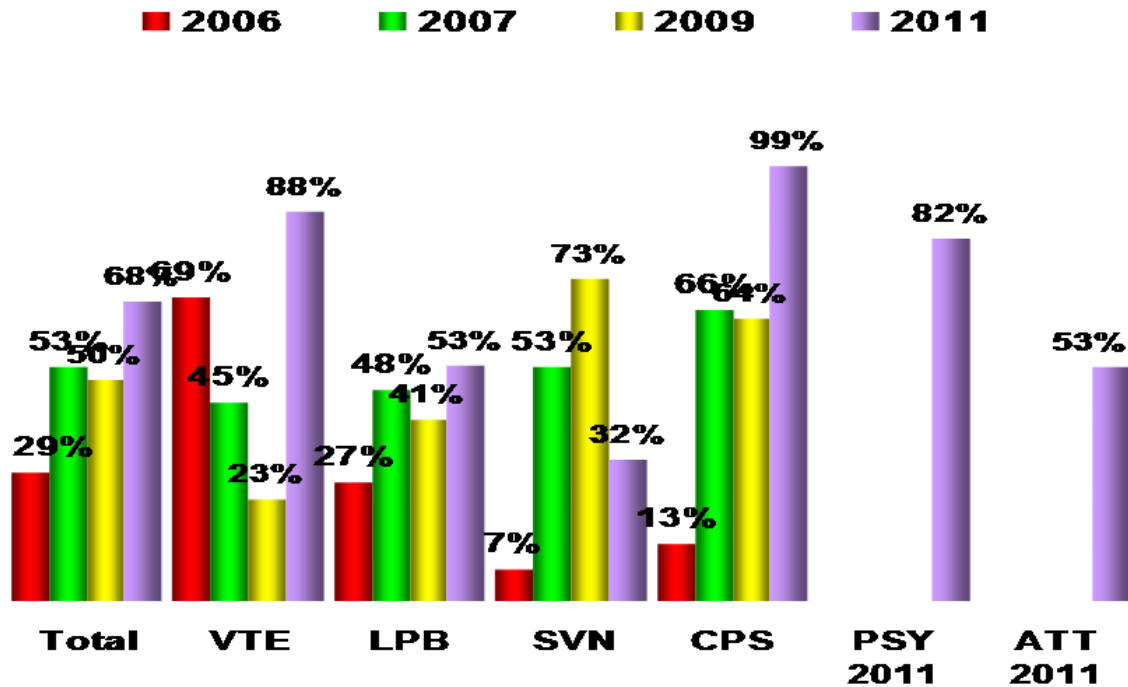


The BCC campaign with poultry farmers is having a positive impact with a significant increase in reported practices relating to protecting poultry. Knowledge and reported practice with regards to protection of poultry has significantly increased, more than doubling 2009 findings to 59% from 24%, and almost four times the incidence found in the baseline study conducted in 2006. Knowledge of protection is highest in Vientiane while reported practice of the same is highest in Champasak. Keeping poultry in good condition is the most important measure known and reportedly practiced, followed by keeping poultry in a protected environment. While vaccinating poultry against AI is an important measure known, washing hands with soap before and after taking care of poultry is a measure more often practiced. While there has been a slight increase in poultry protection practices in Savannakhet, it remains a poor performer when compared to the other five provinces. Further exploration and understanding of the program coverage and barriers to changing practices amongst poultry farmers in this province is encouraged.



6.3.2. Knowledge of & Reported Practice for Protecting Self & Family against AI

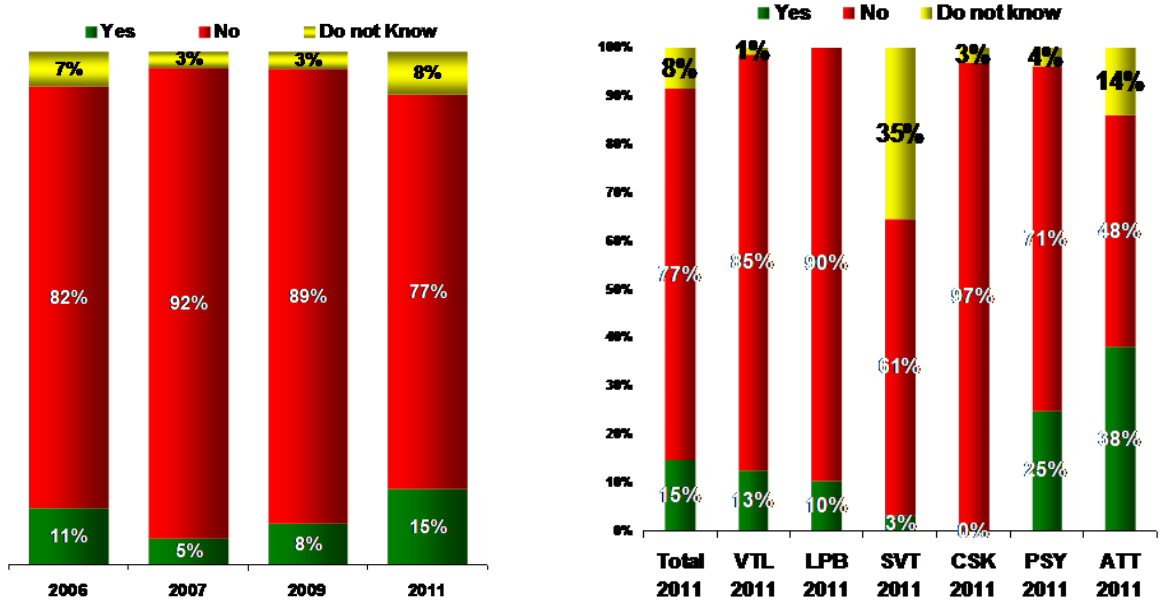
**Practice at least 3 ways of protection...**



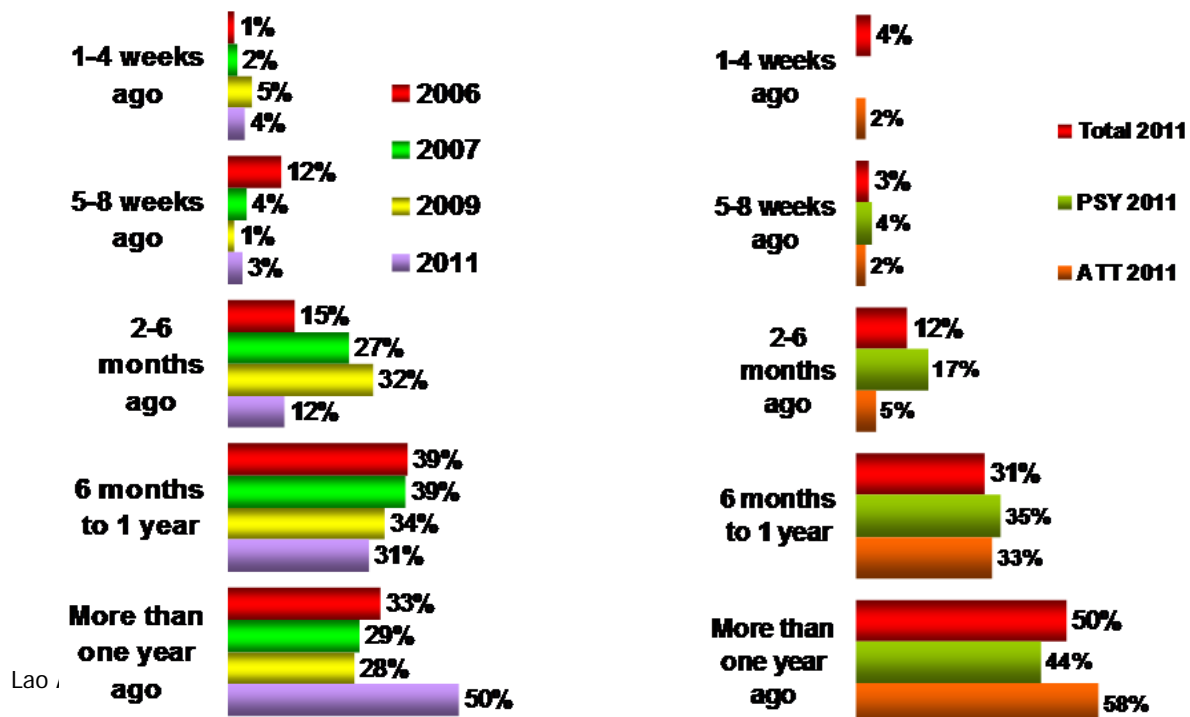
Knowledge and reported practice of protecting family against AI has increased significantly compared with all previous survey waves. Both knowledge and reported practice of the same is highest in Savannakhet with washing hands before and after handling poultry being the most important measure. Not eating undercooked poultry and eggs and washing hands before handling/preparing food are other measures known and reportedly practiced.

# 7. AI PAST EXPERIENCE

## 7.2. Experience of Sick Poultry from AI within Past 2 years



There has been an increase in the number of cases of sick poultry in the past 2 years and is now at an even higher level than in 2006. This is linked to increased awareness amongst poultry farmers of AI. In a turnaround from previous waves, cases of sick poultry are lowest in Savannakhet, followed by Luang Prabang. The two newly surveyed provinces of Attapue and Phongsaly reported the highest numbers of sick poultry within the past 2 years.



One in two poultry farmers who had cases of sick poultry indicated that this had occurred more than one year ago. In the two provinces with a sufficient sample base, more poultry farmers in Phongsaly had experienced more recent cases of sick or dying poultry within the past 2-6 months, and between 6-12 months ago.

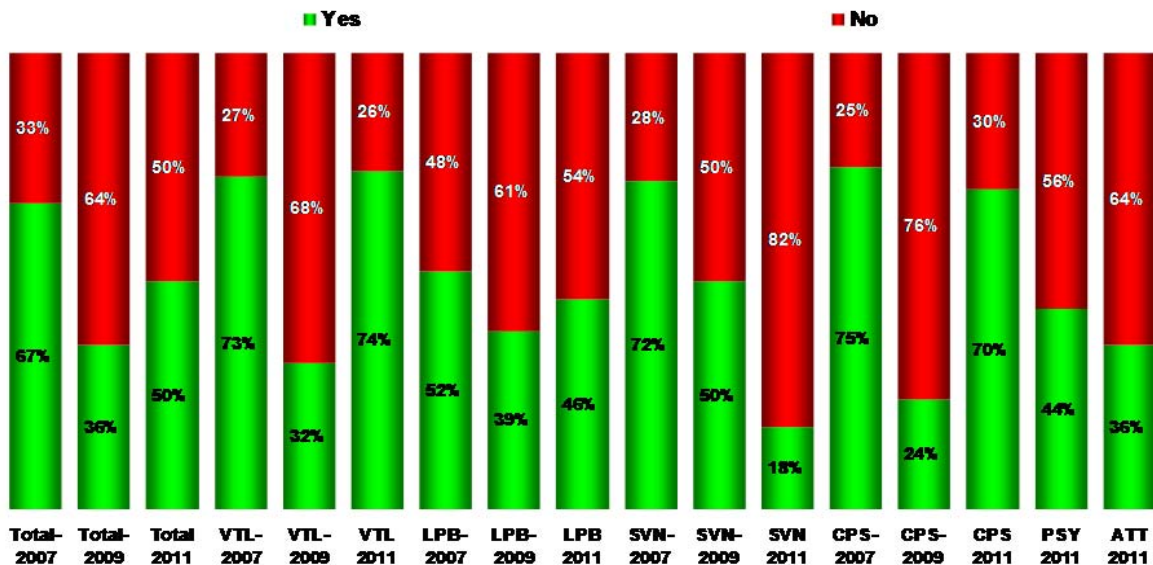
### 7.3. Measures taken when poultry is sick



Poultry farmers are now significantly more likely to report to vet and to local authorities when they have cases of sick or dying poultry. Poultry farmer practices of burying or burning dead birds without reporting has also significantly decreased. While the proportion of poultry farmers who indicated doing nothing or ignoring the problem has increased, this can mainly be found in the two new provinces.

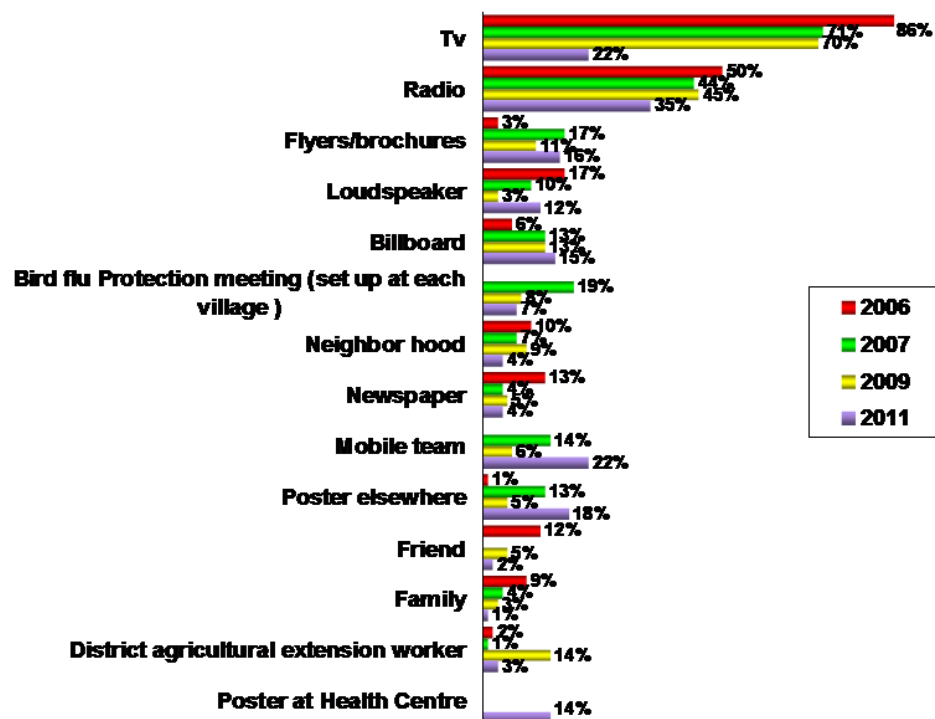
## 8. MEDIA

### 8.1 AI Ads seen in the past 6 months



Overall, half of poultry farmers surveyed in 2011 indicate they have seen an AI Ad in the past 6 months which is an increase over the 2009 survey wave however is still lower than in 2007 at the height of the AI epidemic in Lao. The efficiency of media campaigns may be determined by correlating campaign media spend with reported AI ad recall. AI ad recall is highest amongst Vientiane backyard poultry farmers (74%), followed by Champasak (70%). While there has been an increase in AI ad recall amongst Luang Prabang poultry farmers, it is still below fifty percent. In Savannakhet, AI ad recall has plummeted to below twenty percent – the lowest level since 2007 across any province, and half the AI ad recall than that reported in the two newly surveyed provinces of Phongsaly (44%) and Attapue (36%).

## 8.2 Source of AI Ads



Recall of AI ads on TV has plummeted in 2011 and is at a lower level than recall of messages on radio. This may be in relation to a significant reduction in AI ad TV spend in the latter part of 2010 and early 2011. The only reported increase in AI ad recall sources are mobile teams and posters at health centres and elsewhere as well as billboards.

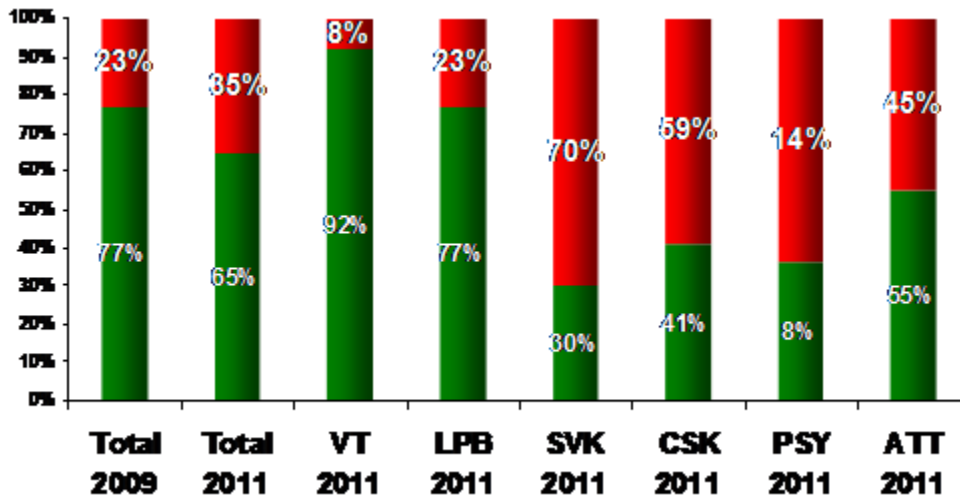
## 8.3 AI Ad Recall

### 8.3.1. AI Ads – Aided Recall

Message	2007	2009	2011
<i>Do you remember seeing or hearing anything about <b>touching poultry</b>?</i>	79%	87%	70%
<i>Do you remember seeing or hearing anything about <b>cleaning or washing to prevent AI</b>?</i>	74%	90%	73%
<i>Do you remember seeing or hearing anything about <b>who you should report it to if you have many poultry die</b>?</i>	63%	75%	65%
<i>Do you remember seeing or hearing anything about <b>what to do or not do with sick poultry</b>?</i>	60%	78%	65%
<i>Do you remember seeing or hearing anything about <b>separating new birds receive or buy from old flock</b>?</i>	41%	58%	54%
<i>Do you remember seeing or hearing anything about <b>feed poultry to prevent AI</b>?</i>	36%	36%	37%

Aided recall of specific AI related messages has declined since 2009 survey wave to 2007 levels, or in some cases, like messages regarding touching poultry, have declined to even lower levels than 2007. This is likely the result of a decrease in media spend regarding dedicated AI behaviour messages. Aided recall of all messages, apart from “feed poultry to prevent AI” was particularly high in 2009 compared with the present survey wave and 2007 survey wave.

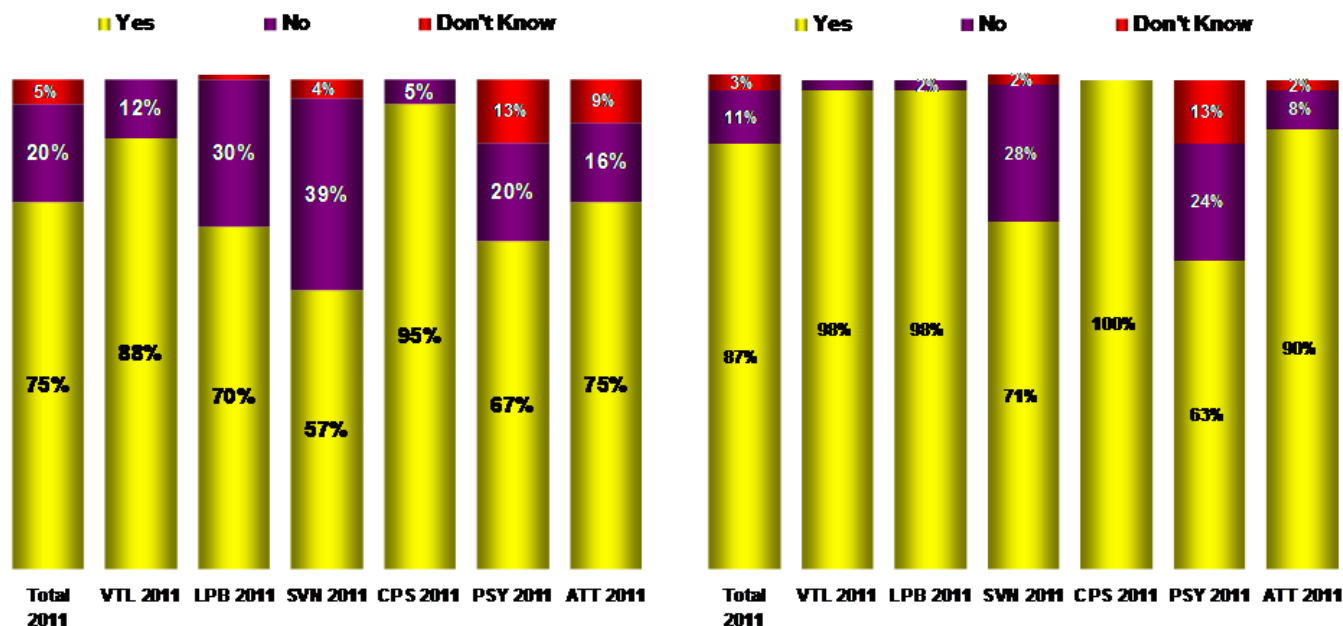
### 8.3.2. AI Ads – Aided Recall: 2009 vs. 2011



As can be seen in above charts, aided recall for AI Ads is down from 2009 level and is especially low in Savannakhet, which is lower even than Phongsaly and Attapue. Aided recall is highest amongst Vientiane poultry farmers with more than nine out of ten poultry farmers indicating recall of messages regarding “who you should report to if you have many poultry die”. Mass media sources have declined since 2009, however VVW’s are now the primary source of “who you should report to if you have many poultry die” message recall. Meetings are also an increasingly cited source of “who you should report to if you have many poultry die” message source.

## 9. A/H1N1 and A/H5N1

### 9.1 Seasonal Influenza Awareness and A/H5N1 Influenza Awareness

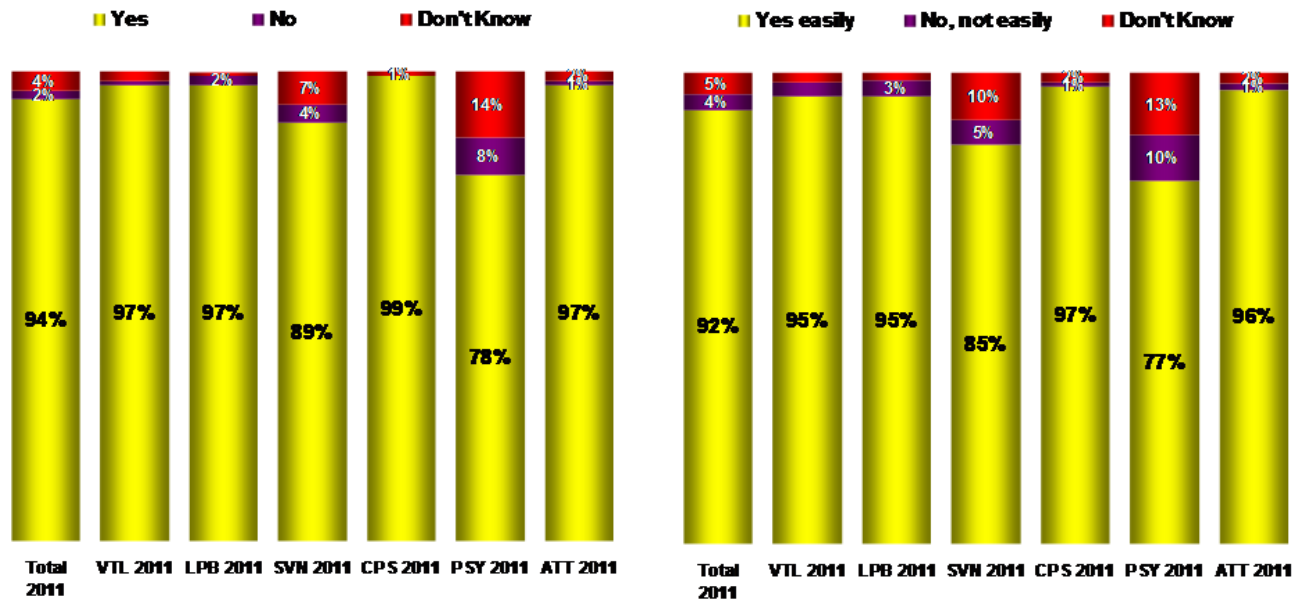


An additional section was included in 2011 KAP survey in line with the expanded communications efforts concerning A/H5N1 influenza and A/H1N1 influenza. The following section describes the findings regarding awareness and exposure to the viruses. Overall, three out of four (75%) of backyard poultry farmers have heard of the seasonal influenza. The highest awareness was found in Champasak where nineteen out of twenty (95%) of poultry farmers were aware of the seasonal influenza. The lowest awareness was found in Savannakhet where less than six out of ten (57%) of backyard poultry farmers were aware of the seasonal flu.

Overall, there was a higher awareness of A/H5N1 than the seasonal influenza. This was the case for all areas apart from Phongsaly (67% vs 63%). Almost all backyard poultry farmers in Vientiane and Luang Prabang were aware of the A/H5N1 influenza indicating that communications efforts in these areas had been especially effective. Even in the newly surveyed province of Attapue, nine out of ten (90%) of backyard poultry farmers were aware of the A/H5N1 influenza.

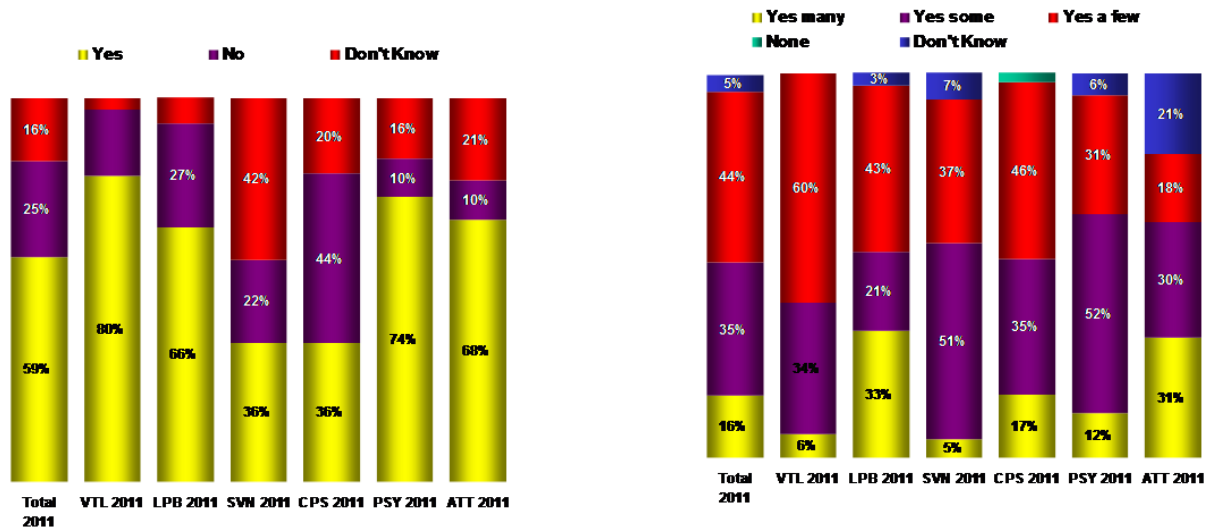
## 9.2 Awareness of How A/H5N1 Can Spread

Backyard poultry farmers who were aware of A/H5N1 were asked if the virus could be spread from poultry to humans and from humans to humans.



Overwhelmingly, backyard poultry farmers were aware that the A/H5N1 influenza could be spread from poultry to humans (94%) as well as spreading easily from humans to humans (92%). Knowledge about how the A/H5N1 influenza spread were lowest in Phongsaly which was in line with the overall lower awareness of A/H5N1 influenza in the province. Communications efforts to address this is in the coming cycle are recommended to raise awareness and knowledge levels to those as can be found in the other key provinces.

## 9.3 A/H1N1 Influenza in Laos

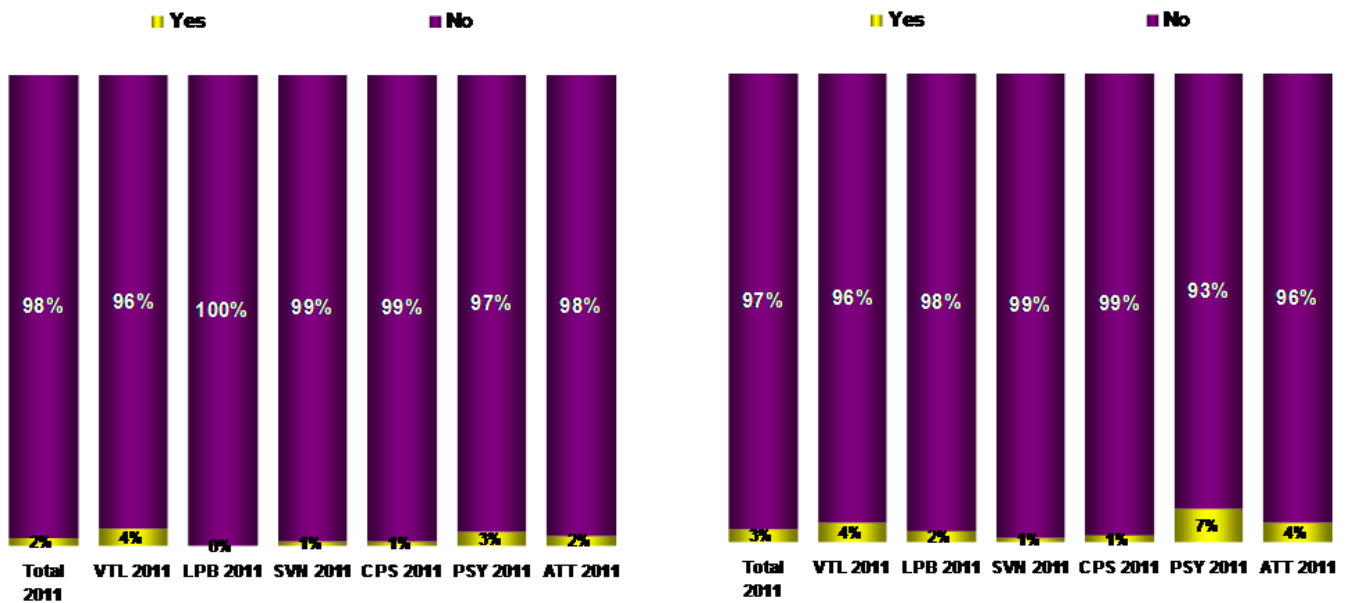




As can be seen in the previous two charts there is awareness that A/H1N1 is in Laos with one in two (50%) backyard poultry farmers aware that it is in Laos. The highest reported knowledge of this is in Vientiane (80%) and the lowest knowledge levels of this being equally in the provinces of Savannakhet (36%) and Champasack (36%), however there is greater uncertainty in Savannakhet with more than four in ten (42%) of backyard poultry farmers indicating that they don't know.

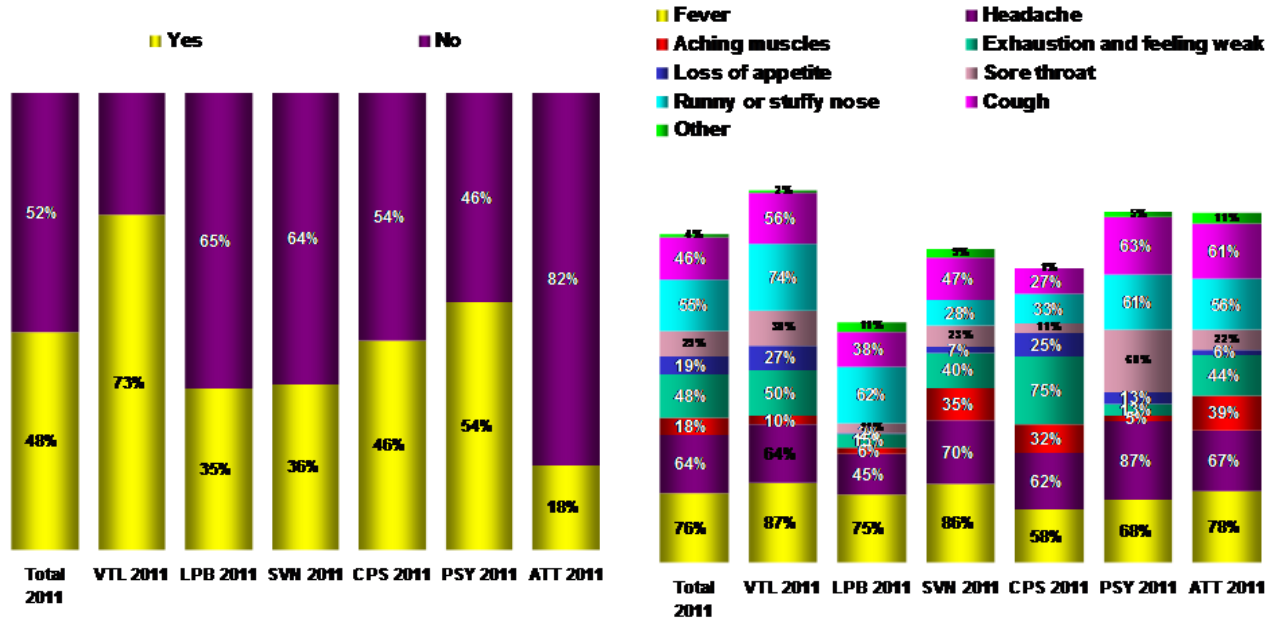
There is a general sense that people in Laos have had the A/H1N1 influenza. Apart from a very small minority in Champasack, overall 95% of backyard poultry farmers indicated that “yes many” (16%), “yes some” (35%) and “yes a few” (44%) of people living in Laos have had the A/H1N1 influenza. Backyard poultry farmers in Luang Prabang (33%) and Attapue (31%) indicated that “yes many” people in Laos had had the A/H1N1 influenza which may be linked to known outbreaks in each of the provinces.

#### 9.4 Ever Diagnosed with A/H1N1 Influenza



Very few backyard poultry farmers indicated that they themselves (2%) had ever been diagnosed with A/H1N1 influenza or that they knew anyone else (3%) who had ever been diagnosed with A/H1N1 influenza. The highest level of known diagnosis was found in Vientiane where 4% of backyard poultry farmers indicated that they had ever been diagnosed with A/H1N1 influenza.

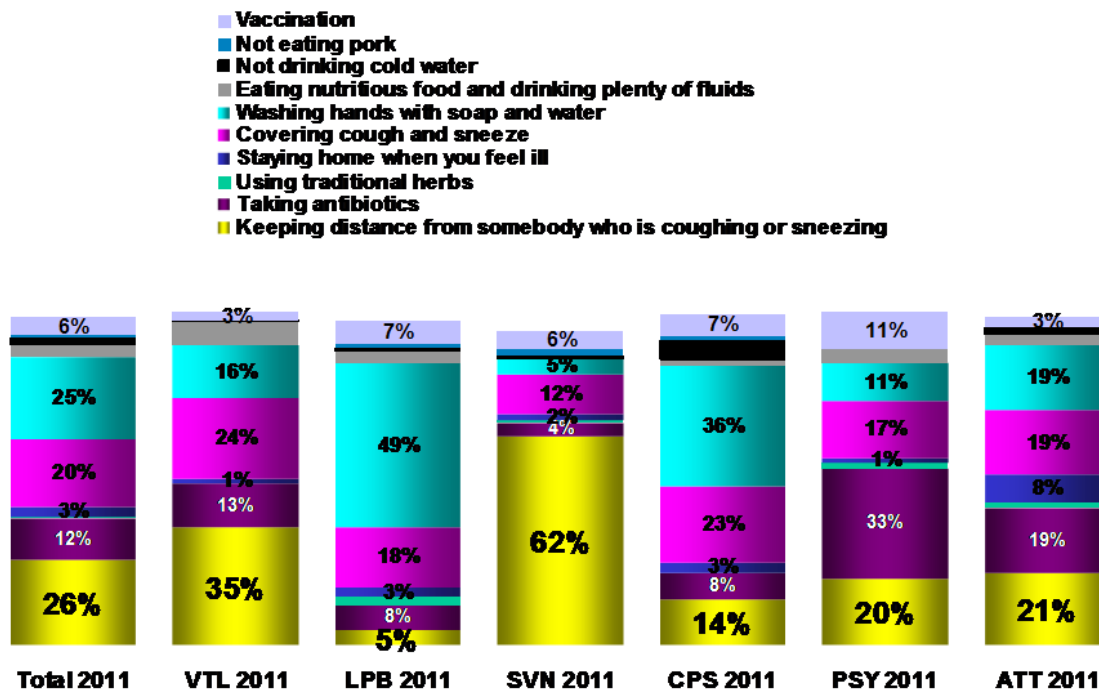
## 9.5 Knowledge about A/H1N1 Symptoms



Overall, one in two of the backyard poultry farmers indicated they know about the symptoms of A/H1N1. The highest claimed knowledge level was found in Vientiane (73%). The lowest level was found in the newly surveyed province of Attapue where less than one in five (18%) of poultry farmers claimed to know A/H1N1 symptoms. Interestingly, in Phongsaly, the other newly surveyed province, one in two (54%) poultry farmers claimed to know A/H1N1 symptoms. Luang Prabang (35%) and Savannakhet (36%) had the lowest claimed knowledge of A/H1N1 symptoms amongst the previous surveyed provinces.

Fever (76%), headache (64%), exhaustion and feeling weak (48%), runny or stuffy nose and cough were the key symptoms of A/H1N1 according to the poultry farmers.

## 9.6 Ways to prevent the spread of A/H1N1



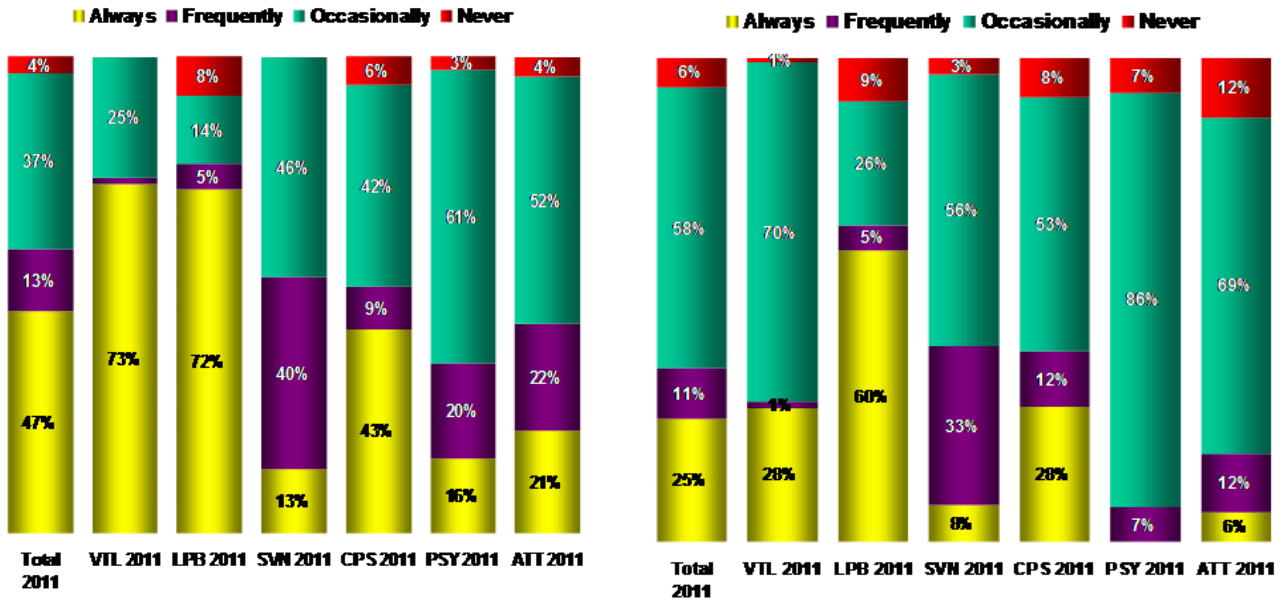
There were a wide range of responses to the question regarding prevention of spread of A/H1N1 with the most common being keeping distance from someone who is coughing or sneezing (26%), washing hands with soap and water (25%), covering coughs and sneezes (20%) and taking medication, specifically antibiotics (12%). One on twenty (6%) poultry farmers who were aware of A/H1N1 symptoms indicated that vaccination was a way to prevent the spread of A/H1N1.

One in two Luang Prabang poultry farmers indicated washing hands with soap and water as an effective way to prevent A/H1N1. Of the Savannakhet poultry farmers who were aware of the symptoms of A/H1N1 indicated that keeping distance from someone who was coughing and sneezing as a way to prevent the spread of A/H1N1. Phongsaly poultry farmers were most likely to suggest a medical approach – either taking antibiotics (33%) or vaccination (11%).

## 9.7 Ways to prevent the spread of A/H1N1

*How often do you cover your nose when you cough or sneeze?*

*How often do you wash your hands after coughing or sneezing?*



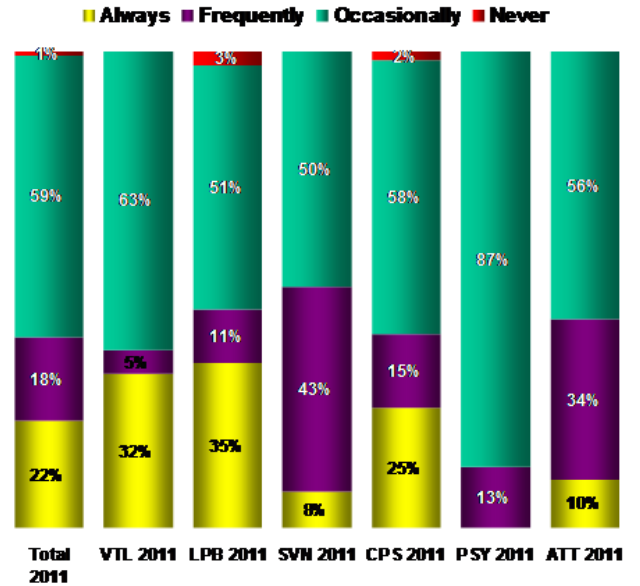
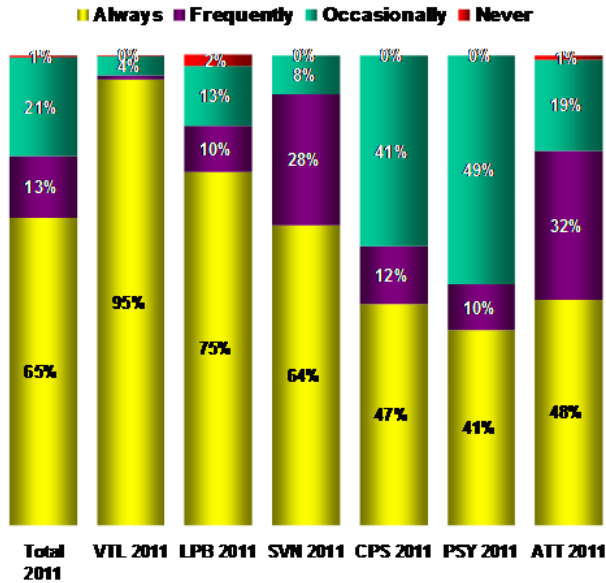
Overall, one in two poultry farmers indicated that they “always” cover their nose when they cough or sneeze. One in three indicated that they occasionally cover their nose when they cough or sneeze. Only one in ten (13%) of poultry farmers in Savannakhet indicated that they always cover the nose when they cough or sneeze. A similarly low level was described by poultry farmers in Phongsaly (16%).

Nearly three out of four poultry farmers in Vientiane (73%) and Luang Prabang (72%) indicated that they always cover their nose when they cough or sneeze.

The incidence of hand washing after coughing or sneezing is much lower than covering nose. Approximately seven out of ten (68%) poultry farmers indicated they occasionally wash their hands after coughing or sneezing. One in four (25%) of poultry farmers indicated that they always wash their hands after coughing or sneezing. More than half (60%) of Luang Prabang poultry farmers indicated that they always wash their hands after coughing or sneezing. Not one farmer in Phongsaly indicated that they always washed their hands after coughing or sneezing.

*How often do you stay at home when you feel ill?*

*How often do you keep a distance from somebody who is coughing or sneezing?*



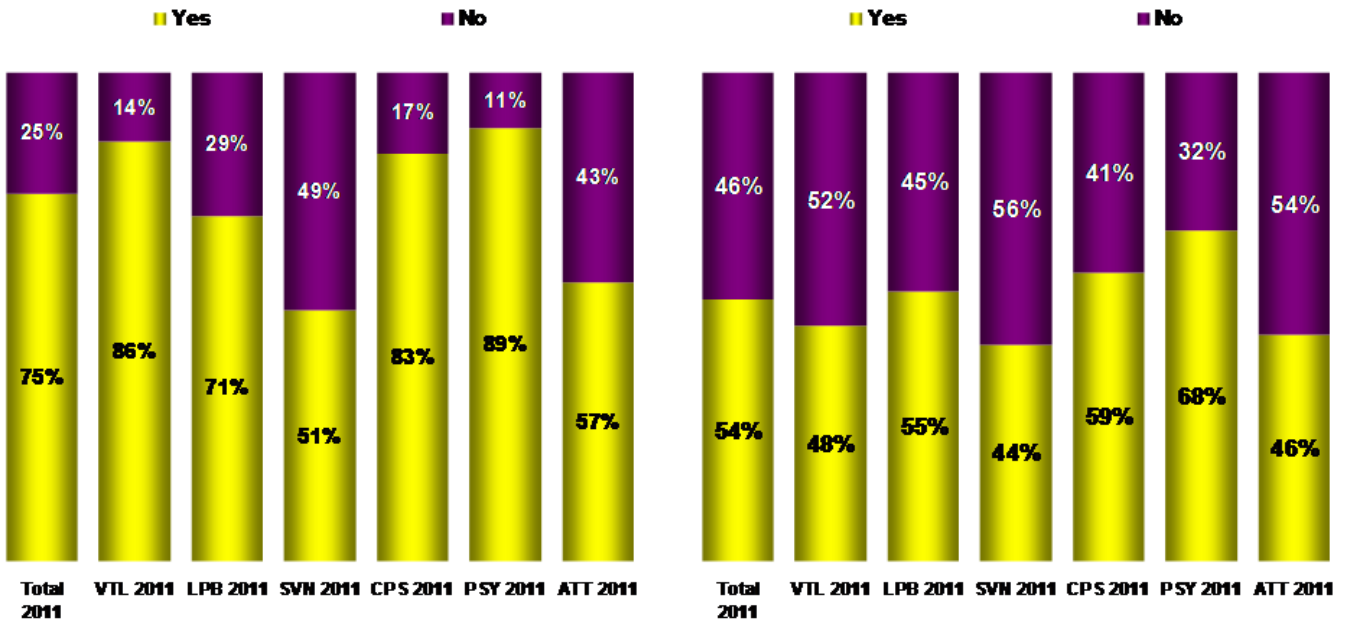
The majority of poultry farmers indicate that they always stay at home when they feel ill. Phongsaly (41%), Champasack (47%) and Attapue (48%) poultry farmers are least likely to stay at home when they feel ill. Understanding these decisions is encouraged.

Most farmers indicate that they “occasionally” keep a distance from someone who is coughing or sneezing. One in five indicated that they “always” keep distance from someone who is coughing and sneezing. Again, no poultry farmer in Attapue indicated that they “always” keep distance from someone who is coughing and sneezing.

## 9.8 Vaccination for A/H1N1

*Have you ever heard of the A/H1N1 vaccination?*

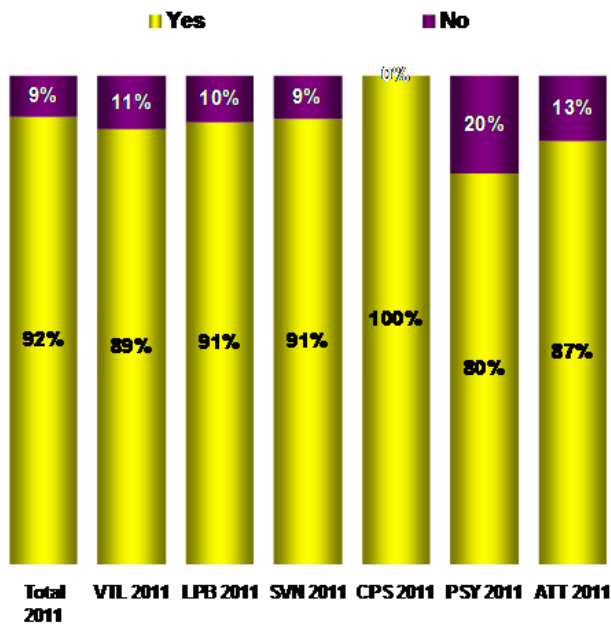
*If yes, have you been vaccinated?*



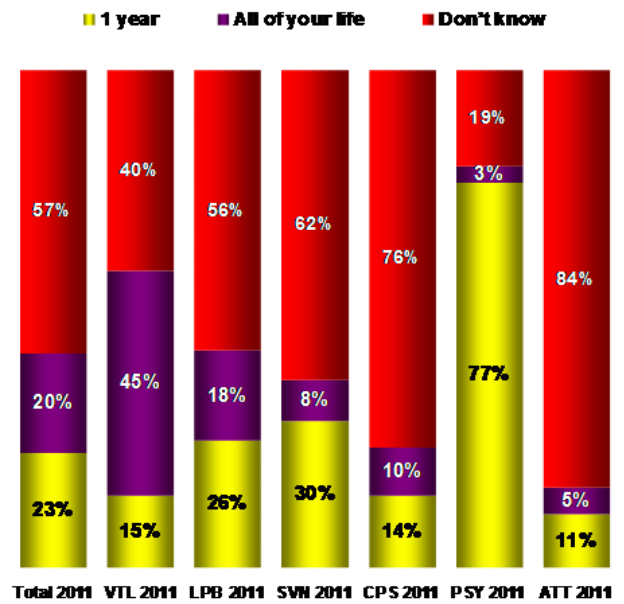
Of the surveyed poultry farmers who were aware of A/H1N1, three quarters indicated that they had ever heard of the A/H1N1 vaccination. The lowest awareness of the A/H1N1 vaccination was reported amongst Savannakhet poultry farmers (51%). The highest levels of awareness were found in Phongsaly (89%) and in Vientiane (86%).

One in two of the poultry farmers who were aware of the A/H1N1 vaccination indicated that they have been vaccinated. The highest level of reported A/H1N1 vaccination amongst poultry farmers was found in Phongsaly (68%). Savannakhet poultry farmers (44%) reported the lowest level of A/H1N1 vaccination. There appears to be barriers to the A/H1N1 vaccination amongst poultry farmers in Vientiane, because while almost nine out of ten poultry farmers who were aware of A/H1N1 and the A/H1N1 vaccination, less than half (48%) had received the vaccination.

**If not, would you like to be vaccinated?**



**Do you now how long the A/H1N1 vaccination is effective for?**

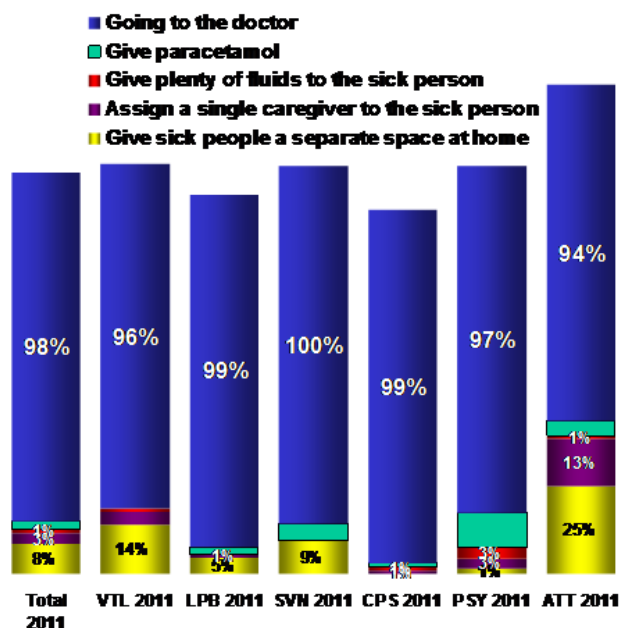


Poultry farmers who have not been vaccinated overwhelming would like to be vaccinated against A/H1N1. Every poultry farmer in Champasack who had not yet received the A/H1N1 vaccination indicated that they would like to receive it.

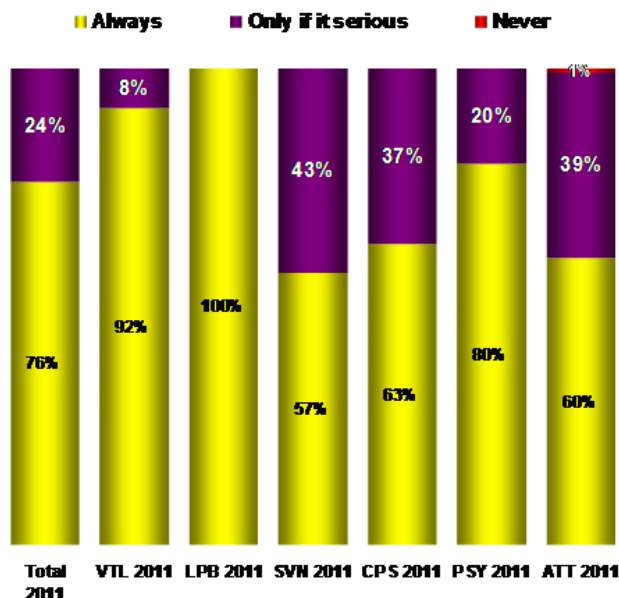
Overall, more than half (57%) of the poultry farmers indicated that they did not know how long the A/H1N1 vaccination is effective for. One in five believed that the A/H1N1 vaccination was effective for the rest of your life.

Three in four (77%) of Phongsaly poultry farmers indicated they thought the A/H1N1 vaccination was effective for one year only. Vientiane poultry farmers were most likely to indicate that the A/H1N1 vaccination was effective for all of your life. Attapeu poultry farmers were the most uncertain about how long the A/H1N1 vaccination was effective for.

*If you or someone in your family had A/H1N1 symptoms, what did or would you do?*



*If you had A/H1N1 symptoms, how often did you, or would you go to the doctor or hospital?*



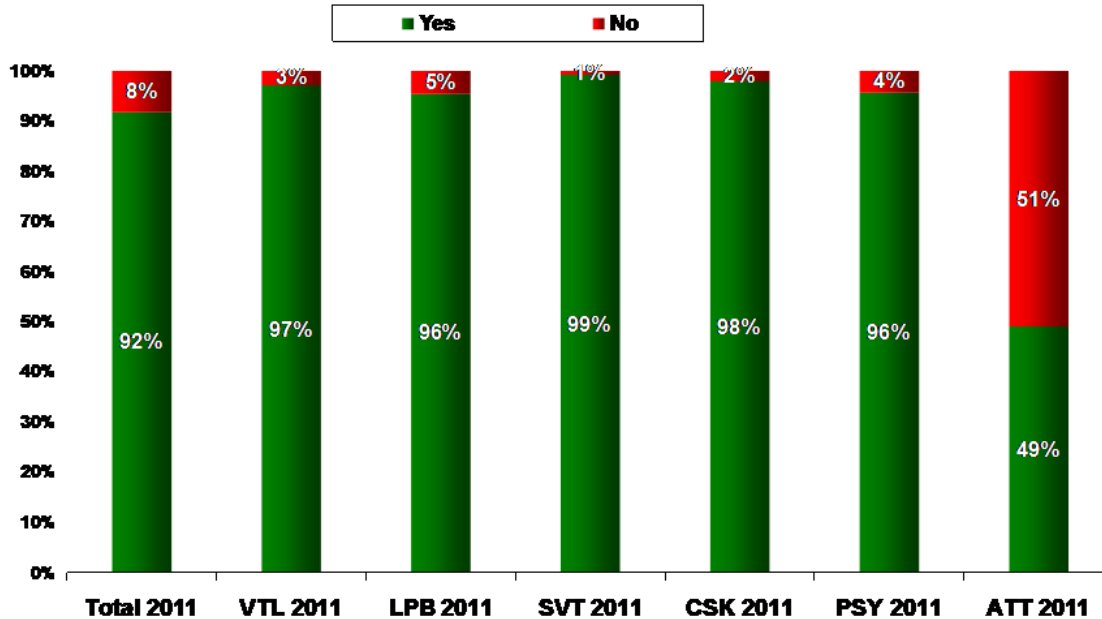
Poultry farmers indicated that if someone in their family had A/H1N1 symptoms they would take them to the doctor. Less than one in ten poultry farmers indicated that they would give the sick person a separate space at home. This may be in large part due to there being a lack of sufficient space within the house structure to accommodate someone on their own. Poultry farmers in Attapue were more likely to provide a separate space in the home for the sick person.

Three out of four (76%) poultry farmers indicated they would “always” go to the doctor or hospital if they had A/H1N1 symptoms. Every poultry farmer surveyed in Luang Prabang indicated that they would “always” go to the doctor or the hospital if they had A/H1N1 symptoms. Medical seeking behaviours appear to be lowest in Savannakhet (57%), Attapue (60%) and Champasack (63%) and these attitudes may be due perceived or real proximity to doctor or hospital.



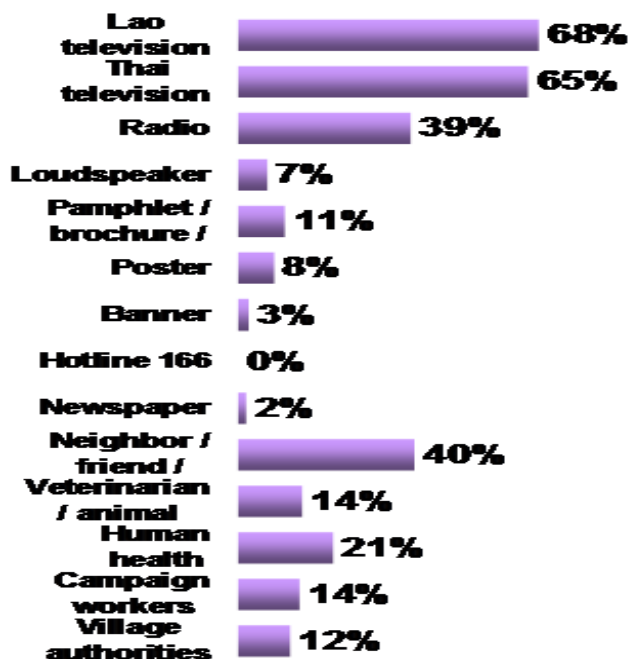
## 9.9 Exposure to A/H1N1 Program Intervention

### Have you ever received information about A/H1N1? OVERALL



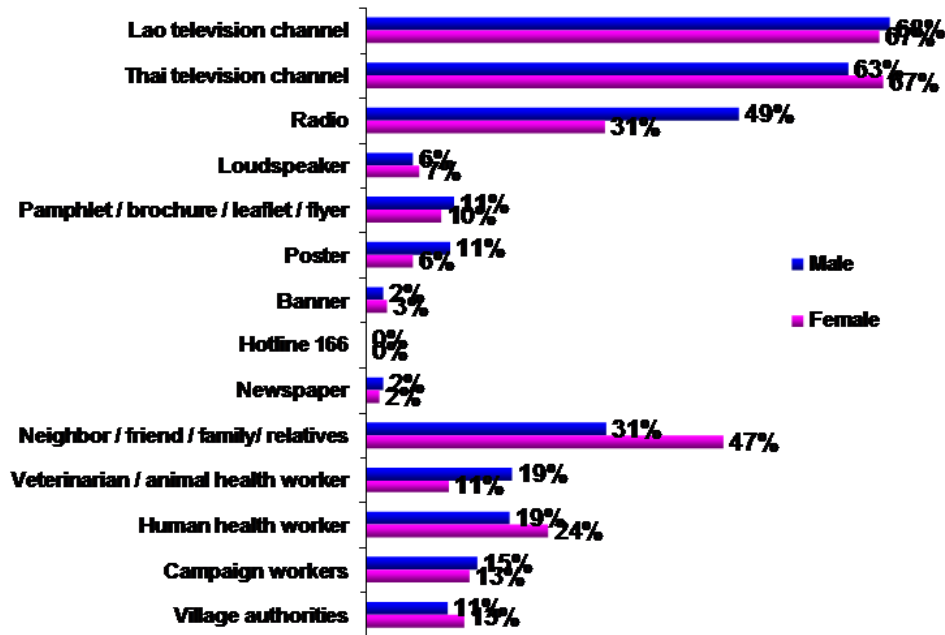
Exposure to A/H1N1 programs amongst poultry farmers has been very effective with nine in ten (92%) poultry farmers indicating they had received information about A/H1N1. The only province requiring attention is the newly surveyed province of Attapue where one in two farmers had received information about A/H1N1.

### Have received information about A/H1N1 from the following sources? OVERALL



The mass media campaign supporting A/H1N1 awareness is effective as the primary sources of information about A/H1N1 have been Lao television (68%) and Thai television (65%) and radio (39%). Other sources of information include neighbours and friends (40%), human health campaign (21%), and pamphlets (11%).

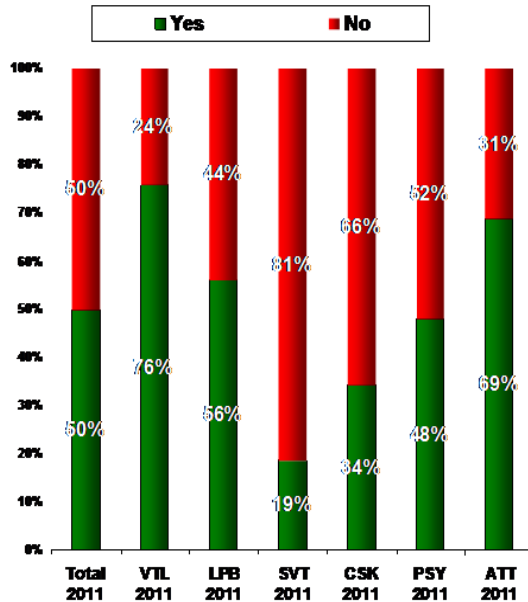
**Have received information about A/H1N1 from the following sources? GENDER**



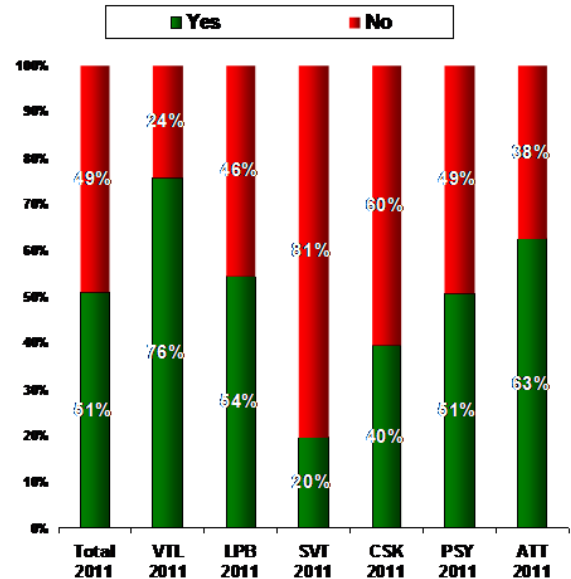
While equal proportions of both men and women source Lao and Thai television channels as sources of information about A/H1N1, women (47%) are more likely than men (31%) to have heard about A/H1N1 from neighbours and friends, and vice versa more men (49%) have heard message on the radio than women (31%). Continued dissemination of message via the radio is important for reaching male poultry farmers. Further, efforts to ensure that correct A/H1N1 information is being shared by word of mouth channels is encouraged.

## 9.10 Exposure to Specific Education Materials

*Have you ever seen pamphlet about “Clever before catching the flu” before?*

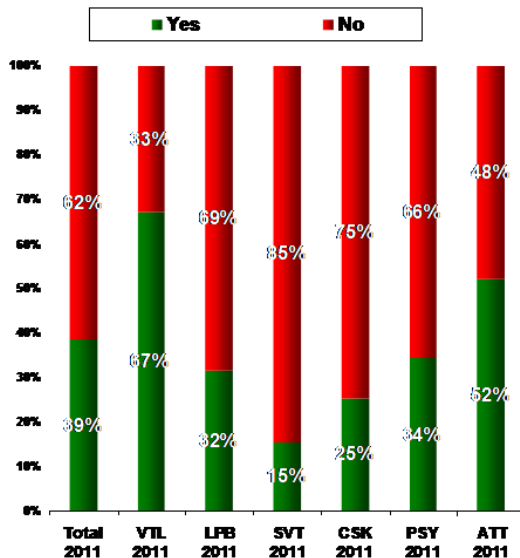


*Have you ever seen pamphlet about “Treatment of People with flu” before?*

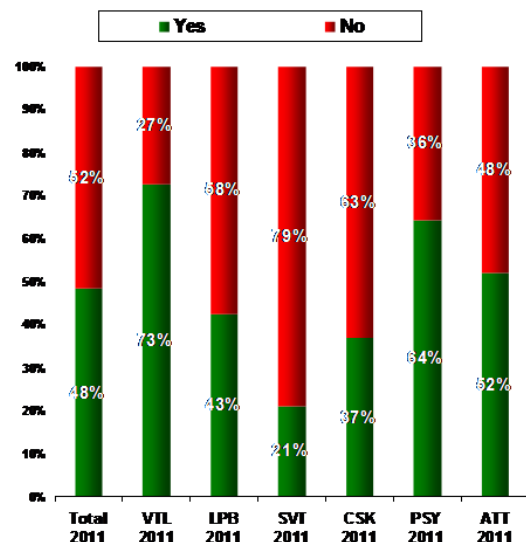


Overall, an equal number of poultry farmers indicated that they have seen the “Clever before catching the flu” and “Treatment of people with flu” IEC materials. Approximately one in two farmers had seen each material. Savannakhet poultry farmers report lowest level of exposure to the A/H1N1 IEC materials with only one in five poultry farmers indicating they had seen either pamphlet.

*Have you ever seen pamphlet about “Knowledge about A/H1N1” before?*



*Have you ever seen pamphlet about “Preventing yourself and others from getting A/H1N1” before?*



The pamphlet titled "Knowledge about A/H1N1" was the least ever seen overall. The pamphlet titled "Protecting yourself and others from getting A/H1N1" was seen by approximately one in two of the poultry farmers overall, however a very varied story appears when comparing the provinces. Savannakhet poultry farmers have had the least exposure to any A/H1N1 IEC materials with only one in five poultry farmers having seen any of the education materials about A/H1N1. Champasack and Phongsaly poultry farmers also had lower levels of exposure to the A/H1N1 educational pamphlets.

Vientiane poultry farmers had the highest exposure to all of the A/H1N1 educational pamphlets.

Fever (76%), headache (64%), exhaustion and feeling weak (48%), runny or stuffy nose and cough were the key symptoms of A/H1N1 according to the poultry farmers.

# ANNEX 1 – Sampling Methodology for Selecting Survey Location

## Sampling Procedures used during the KAP Baseline (2006)

1. Province selection: selected 4 high risk provinces where AED and counterpart will work
2. District selection: in each provinces 4 rural districts were randomly selected by the PPS, based on stratification by population (prioritizing the infected districts)
3. Village selection: in each selected district, 6 villages were randomly selected by the PPS.
4. Household selection: 10 respondents were randomly selected in each village. Selected households who met the criteria were interviewed.

## Procedures for the KAP 2 Evaluation Survey (2007)

The survey was conducted in the same provinces, districts and villages. But, households were randomly selected.

## Procedures for KAP 3 Evaluation Survey (2009)

The survey was conducted in the same provinces, districts and villages. But, households were randomly selected.

## Procedures for KAP 4 Evaluation Survey (2011)

The survey was conducted in the same provinces, districts and villages as previous survey rounds with the inclusion of two additional provinces, namely Phongsaly and Attapue. The same sampling procedures were deployed for the current survey as in previous rounds to ensure consistency and provide for comparability of results between the survey waves over the past 5 years.

See following pages for detail of the districts and villages visited within each province for this study.

## **ANNEX 2 – 2011 questionnaire (English)**