# CHAPTER V

# DISCUSSION AND CONCLUSIONS

## 5.1 DISCUSSION

The source of information analysis shows that the biggest impact on the farmers came from the media - TV broadcasts and radio.

The biosecurity changes widely implemented are: the netting of poultry open houses, separating and caging the fighting cocks and applying for movement permits in order to avoid problems with the police and the road control authorities.

The "all in-all out" approach is implemented by most of the farmers as a safety approach to minimize the chance of mixing healthy chicks from a single source with possible infected new birds Before starting new flocks the poultry house is washed and disinfected with formaldehyde and left empty for a minimum of two weeks.

The most widely used disinfectants are quaternary ammonium, Formaldehyde, Virkon S, glutaraldehyde (Parvocide Plus) and iodine compounds to disinfect cages. Most farms that raise laying hens or ducks use the open house system with a fish pond under. Farmers who have fish ponds under their chicken house used less concentrated formaldehyde because they are afraid to kill the fish.

For egg boxes farmers use Virkon or Iodex, a hand -washing Iodine disinfectant, Some big farms don't allow visitors or they allow visitors and workers to enter in poultry production areas only after using foot baths. No other precaution like properly sanitized clothing, cleaning footwear, or even the washing the hands are taken.

Most laying hen farms carry on the disinfection of egg boxes but few of them have it in front of the farm water barriers for vehicles or visitors.

Farmers understand the risk of spreading the virus from one kind of animal to another so they avoid mixing or raising different species on farms, like pigs, dogs, cats.

All big farms carry out regular rodent disinfections and after an outbreak in farms all the stored leftover food is destroyed.

Groups discussions prove that a farmer's has moderate knowledge regarding AI, basically they are well informed but in reality they are not use this information seriously.

The majorities of the farmers touch sick or collect dead birds with their bare-hands but afterwards they wash the hands. As well, the use of gloves or protection for the hand when the birds are slaughtered or prepared for consumption is not widely accepted.

One change is significant and it is that children are not allowed to feed the chicks and most farmers explain to their children that it is dangerous to play with chicks. But it is almost impossible to control the movement of the chicks and their habits when raising backyard chickens.

Supanburi province is a land of rice fields and free grazing ducks are common in this region with abundant rice paddies. This province had the highest cumulative number of outbreaks and a large population of free-grazing ducks (Gilbert et al., 2006).

People understand that Avian flu can kill people but they are not fully aware of all the dangers. Almost everyone thinks that if you are in good health you cannot get infected. The habit of slaughtering and cooking sick chickens is still carried out.

In Supanburi province there are now more closed farming houses with bio safety changes.

The majority of the respondents have moderate knowledge about AI.A majority of respondents had moderate knowledge about symptoms of avian flu and also regarding AI transmission. Less then half of respondents had moderate knowledge regarding practice and response. In general all respondents had better knowledge of the symptoms of avian flu than of the practice and transmissions. But affected poultry farmers had better basic knowledge about avian flu. That's not surprising because symptoms of all poultry disease are more or less the same but the farmers don't know why birds are sick. All agree that AI sick birds die in a few hours. (Chaitaweesub et al., 2007)

Noting that practices need to change, it is clear that government needs to explain more about safety practices.

The government has carried out a massive campaign to explain the dangers and to make people aware about AI but this has not had the expected impact on farmers who still don't fully believe the dangers.

Preparing and eating dead or obviously diseased birds is still practiced because they explain that this has been done for many years and no one in the family became sick. There was no significance between differing occupations and basic knowledge regarding AI including the way of infection, transmission and spreading, symptoms (p value was 0.090).

Affected farmers agree with the compensation given but if they can have a higher compensation they will be happier. All respondents are satisfied with the government's campaigns but they say that AI campaigns should be carried out at all time and not only during the outbreaks.

Lack of knowledge does not appear to be an essential factor for the practice of respondents and this study suggests that campaign programs and interventions must be continued, particularly among rural populations, and should put the emphasis on precautionary measures. Income is a relevant factor for basic knowledge and precausion. It is also the case that bigger income farmers or rural households that they are not willing to invest in personal protection materials like gloves, masks, boots, etc. The farmers have daily routines and it is very difficult to change their behavioral practice since they seem to think that the Avian flu will never happen to them but to someone else. Some farmers are still using poultry dung as fertilizer and they are not aware of the possibility of spreading infection with this.

Previous Three Indonesian Clusters study of H5N1 Virus in 2005 proves that: Patients 2A and 2B did not report having had contact with poultry, wild birds, other animals, or other ill persons, but chickens died nearby, and poultry were slaughtered daily approximately 50m from the home. In her home garden, Patient 2A used fertilizer containing poultry faeces that tested positive for H5N1 by RT-PCR (Kandun et al., 2006)

## 5.2 LIMITATION OF STUDY

Among the limitations of this study is that the interviewed only speak the Thai language I do not, and this therefore limited my ability to understand all the explained differences. The interviews were led by Thai speakers and veterinarian officers from DLD headquarters; therefore the interviewers were governmental officers and a

foreigner (myself) and the overall impression was that they might have answered differently had they known the interviewers better.

The data collection was done by the Supanburi provincial veterinary officers with a turnaround of 2 weeks.

Some of the questionnaires were incomplete and it was impossible to find out who had answered and for that reason it was impossible to contact them again and ask for more. However it could also be that the respondents did not understand the questions fully or that they might have been confused especially about the section of the questionnaire regarding farming since some respondents were not farmers and some did not have affected poultry. Some biases may have been created at that point. In this study quantitative data was validated through qualitative data, and in-depth interviews.

Furthermore this study did not collect data from other affected provinces to compare knowledge and attitudes regarding AI with people from other rural areas and does not represent the whole Thai population.

## 5.3 CONCLUSION AND RECOMMENDATION

The results showed that there was a significant association between practice and knowledge and correct knowledge answers proves that respondents have received information about AI but they still need to implement that knowledge into the practice. Campaigns need to be carried out all the time not only during outbreaks. The results showed as well that affected farmers had better knowledge regarding

symptoms but practice in poultry handling is the same in all groups with no different by gender, income, or affectation.

Paying compensation to affected farmers played a big role and had an important impact on persuading farmers to report suspected outbreaks of AI occurring in their animals.

Without prompt reporting, even the best organized Veterinary Emergency service will not be able to respond on time and the poultry industry will be severely hampered.

Results of this study, along with those of other similar studies, should provide useful information for planning future Veterinary and Public health preparedness against Avian influenza.

My suggestions to the local authorities are as follows:

In rural places it would make sense to organize workshops and to train the villagers themselves and therefore the awareness would be higher because the farmers would have a known and trusted informer within the community. A participatory approach in the training methodology should bring a better appropriation within the community. Thus the campaigns will have a higher impact.

Health volunteers and Public health officers should encourage the villagers to have more credence and to report first suspected cases. The authorities will be able to react faster and to better control a potential outbreak if they receive rapidly relevant information.

This study suggests the need to put in more effort and to continue campaigns, especially in schools since the young population is not yet set in its ways and the

campaigns will have longer term efficiency. NGOs and other organization should give more support to further research and early warning surveillance system.