

Annex 5.5

Biosecurity Practices in Village Poultry in Cipunagara SubDistrict, Subang District, West Java: Case Study

Denny W Lukman¹, Y Ridwan¹, BA Wibowo¹, AZ Ilyas¹, C Basri¹, E Sudarnika¹,
A Sugama², P Hermans³, AJ Nell³

¹ Department of Animal Infectious Diseases, Faculty of Veteriner Medicine, Bogor Agricultural University, Indonesia

² District Livestock Services, Subang District, West Java, Indonesia

³ Centre for Development Innovation, Wageningen University and Research Centre, Wageningen, The Netherlands

Keywords: biosecurity, village poultry, Cipunagara Subdistrict

Introduction

The government of Indonesia established the policy of compartmentalization and zoning in order to support the control and preventive of avian influenza spread through issuing the Decree of Minister of Agriculture number 28/2008. Compartmentalization and zoning are recommended by the World Organization for Animal Health (OIE) to be implemented in animal disease control and eradication. The objective of compartmentalization and zoning is to improve poultry health status through implementation of good breeding practices and good farming practices so that will safeguard quality and safety of poultry and its products. This aim of study was to identify the biosecurity practices in village poultry in Cipunagara Subdistrict, Subang District, West Java.

Material and Methods

The study was carried out from December 14th, 2009 until December 23rd, 2009. There were eight commercial breeding farms in Cipunagara Subdistrict were involved in this study. By constructing circular zones with a radius of approximately one kilometer around the commercial breeding farms, a total of six zones could be clustered. The villages and sub-villages located in these six zones were the target population of this survey.

Data were collected from households that kept poultry by means of a questionnaire which was designed to collect information regarding the characteristics of the households that kept poultry (household composition, sources of income, reasons for keeping poultry), poultry husbandry, and biosecurity practices. The questionnaire was pre-tested in a village in Bogor and then modified based on the results of this pre-test. The interview was conducted by trained enumerators.

Information on the number of household that kept poultry was provided by the Livestock Service which is used as a sampling frame of survey. A multi-stage random sampling technique was used to determine sample size. Primary sampling units were the households within each of the zones. The number of households to be sampled per zone was based on a prevalence of 50%, an error of 10% and a 95% confidence level. All sample size calculations were carried out in WIN Episcopo[®] version 2.0.

Data recorded in the questionnaire was entered directly into an SPSS database (SPSS version 13.0). Twenty questionnaires were randomly selected to check for the data entry mistake. The data was analyzed descriptively to generate frequency distributions of variables of interest.

Results and Discussion

A total of 356 households were interviewed resulting in a response rate of 83%. Most of the household kept the poultry (n=342; 96%) and in the majority of cases, it was owned by all household members (n=284; 80%). Poultry keeping was a source of extra income for 291 households (82%) although only 43 households (12%) indicated that raising poultry was their main or one of their main sources of income. A majority of households

(n=253; 71%) ranked keeping poultry second in terms of importance as a source of income.

The majority of households (n=261; 73%) kept their poultry in cages; 14 households (4%) did so all the time, 244 households (69%) only at night and 3 households (1%) at irregular times. Most of households (n=352; 99%) provided additional feed for their poultry. The household (n=328; 92.1%) bought additional poultry feed for their poultry and only small number of household (n=34; 9.6%) gave commercial feed.

Most of households (n=312; 88%) did not report if disease occurred in their flocks and the most frequently cited reason (n=191; 61%) for this was that they did not know to whom they should report. The majority of households who reported the occurrence of disease mentioned that they informed the head of their neighborhood (RT) or citizen association (RW) (n=32; 73%) rather than report it to livestock services (n=4; 9%). Similarly, most households did not report sudden death events (n=315; 88%), primarily because of a lack of knowledge to whom to report (n=232; 74%). The heads of the RT or RW would be the most likely authorities to whom instances of sudden death would be reported (n=28; 68%).

Besides raising poultry, one third of households kept other animals (n=138; 38.8%) and sheep was more frequent than other animals which was kept by the households (15.7%). More than half respondents cleaned the cage at least once a week (n=141; 54.2%) and they mostly only swept the cage (n=204; 85.4%) rather than washing (n=1; 5%); 23 (9.6%) households did both sweep and washing. If they washed the cage, most of them used only water (n=17; 48.6%) and water and soap or detergent (n=11; 31.4%) compared to using disinfectants only (n=2; 5.7%), water and disinfectant (n=1, 2.9%), or combination of water, soap, and disinfectant (n=4, 11.4%).

Most of the households always washed their hands before/after handling of poultry (n=289; 81.2%) and mostly of them used water and soap (n=268; 83.0%). Nevertheless, other personal hygiene practices i.e. change of clothes before/after poultry handling and use of special shoes while poultry handling had not yet been applied by most of households (81.5% and 94.9%).

More than half respondents had never introduced new poultry to their existing poultry (n=220; 61.8%). If they had got new poultry, they put directly with old poultry (n=70; 19.7%) or kept them separately (n=66; 18.5%). If the households separated new poultry from old poultry, most of them kept separately for 1-6 day (57.6%) compared to 1-2 weeks (31.8%) and longer than 2 weeks (10.6%).

Most of household had not yet applied rodents control at their house (n=180; 50.6%) and also insect control (n=235, 66.0%).

Dead poultry was mostly buried by households (n=225; 63.2%). Some households threw dead poultry in the river (n=87; 24.4%) and did nothing (n=8; 2.2%). Manures were mostly disposed by households through spreading in the field (n=147; 41.3%), collecting in a pile (n=117; 32.9%), and putting in a trash bag (n=99; 27.8%).

Most of household demonstrated moderate level of biosecurity knowledge (n=215; 60.4%). Only few household showed good level of biosecurity knowledge (n=24; 6.7%) and some other showed bad level of biosecurity knowledge (n=117; 32.9%).

Biosecurity practices are series of human behaviors, procedures, and attitudes that create barriers for disease agents and often divided into categories under three goals: isolation, sanitation, and traffic control (Cardona 2008). It seems that the lack of knowledge on biosecurity influenced the bad practices of biosecurity in village poultry.

Conclusion

Biosecurity practiced by households was still low, specifically in caging, disposal of dead chicken and manures, cleaning and disinfection, personal hygiene, and reporting of sick or sudden dead. Only few household showed good level of biosecurity knowledge and some other showed bad level of biosecurity knowledge.

References

Cardona CJ. 2008. Farm and Regional Biosecurity Practices. In Swayne ED (ed), Avian Influenza. Blackwell Pub, Ames, Iowa.