



AVIAN POPULATION SURVEY IN THE PHILIPPINES

MANUAL OF OPERATIONS



JULY 2006

QUEZON CITY, PHILIPPINES

Livestock Development Council (LDC)
Bureau of Animal Industry (BAI)
Bureau of Agricultural Statistics (BAS)
DA-Regional Field Units (DA-RFU)
Local Government Units (LGU)

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A Collaborative Project of DA-Agencies and LGU's under the
Avian Influenza Preparedness Program of the Department of Agriculture

Quezon City, Philippines
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I. Introduction

Highly Pathogenic Avian Influenza (HPAI) is a dreaded disease of poultry that affects multiple internal organs and has a mortality rate that can reach 90-100% often within 48 hours. This disease can also be transmitted and cause death to humans, making this one of the most dreaded disease at this point worldwide.

Similar occurrence of the disease at the early 1900's have caused the death of around 400 million people worldwide, and while there are only around 60 confirmed human deaths due to bird flu virus, the World Health Organization is fearing for a pandemic scenario where there which can be brought about by the possibility of re-assortment of the virus in humans and may pave the way for a human to human transmission.

To date, 49 countries in 4 continents were already infected by the virus making the possibility of a pandemic scenario a clear and present danger. In South East Asia, only Sinagapore and the Philippines remain free from the disease. However, the burden of keeping this freedom entails the collective effort of all sector in the government and most especially the support of the general population to this undertaking.

The Philippines is a tropical country composed of 7,100 islands and there are bodies of water in almost all the provinces which make the country a natural destination for migratory birds during the summer months when they escape the cold temperature in the temperate countries. Migratory birds are among the natural hosts of the virus and their presence in our country, in direct contact to the local domestic fowl population further increases the threat exponentially as the virus can be transmitted through feces, saliva and nasal secretions. Domesticated birds may become infected with avian influenza virus through direct contact with infected waterfowl or other infected poultry, or through contact with surfaces (such as dirt or cages) or materials (such as water or feed) that have been contaminated with the virus.

The total avian population in the country which includes all domestic birds, pets and poultry is not definite at this point. Total poultry population however is estimated at 14 million birds, employing thousands people nationwide.

In 2005, the poultry sub-sector contributed 15.5% in total agricultural products with gross earnings of 107.8 billion pesos at current prices, up by 3.19% compared with last year's output. Chicken which remained the biggest contributor to total poultry production had a 2.88 percent in gross output value due to output and price gains with duck recording a gain of 6.64 percent in gross value of output this year. Chicken eggs grossed 4.88 percent higher this year due largely to increase in production. The gross earnings from duck eggs dropped by 2.6 percent as a results of lower output this year.

Any eventualities of the infection by the bird flu virus will definitely result to aggravating circumstances which shall adversely affect our poultry industry. Incomes lost and potential loss of thousands of jobs will have disturbing effect in the Philippine economy, notwithstanding the threat to human population which can not be quantified.

Accordingly, the potential for an increase in production in the poultry sub-sector is a rational direction which should be pursued given the vacuum left in the international market by the poultry exporting countries which have been affected by bird flu. This, on the economic side is one of the pressing concern that should be a driving factor in the effort to maintain the country as bird flu free.

II. Rationale

The countries response to the global threat of bird flu has been remarkable at this point, given among other factors the fact that the country remained free from the disease up to the present when even the first world countries in Europe who have made significant efforts to protect itself have failed.

However, to be fully supportive on our claim of freedom from the disease, a survey of all bird population is a necessary undertaking. This will document all our susceptible population as having remained free from the disease and will give the Bureau of Animal Industry a clear picture of the field situation once all these birds are inventoried and their respective data validated.

The said undertaking will give us a clear scope of population at risk, on the smallest geographical unit possible, like the barangay. As it is, response in any eventualities will be more direct and efficient as there will

be no room for uncertainty in affected population and areas. Policy on possible stamping out in events of bird flu outbreak will also be addressed and possible affected population will be documented ahead of the incident.

Any other policies, like movement control will also be well founded in case inventory per province or municipality is done. We will also be well equipped in decision making both in disease control and in trade if we will be able to see the accurate and detailed distribution of population of our poultry in the country.

III. Scope and Coverage

All barangays in the 81 provinces including NCR/Metro Manila will be covered in this survey. The information to be gathered will include basic data on the following poultry:

1. Native chicken
2. Broiler
3. Layer
4. Gamefowls
5. Quail
6. Ducks
7. Turkey
8. Pet birds
9. Ostrich
10. Geese

Reference period is from July 1 to July 31, 2006 or as of time of visit.

IV. Collaborators

1. Livestock Development Council
2. Bureau Animal Industry – Avian Influenza Task Force
3. Bureau of Agricultural Statistics
4. Department of Agriculture – Regional Field Units
5. Local Government Units

V. People Involved

Field Supervisors:

1. Provincial Statistical Officers (BAS)
2. Provincial Veterinarian/City Veterinarian (RFU)
3. Regional AI Coordinator
4. Regional Statistics Officer (BAS)

Interviewers/ Data Collectors:

1. BAS Provincial Staff
2. RFU Staff
3. LGU Provincial Staff

Respondents:

1. Barangay Captain
2. Livestock Handlers
3. Barangay Livestock Technician
4. Municipal Agricultural Officers/livestock Technicians
5. Meat Inspectors
6. Poultry Association

VI. Methodology

4.1 Training

Three levels of training will be conducted before the start of actual field data collection. The first level scheduled on May 26, 2006 is for the trainer's training to be participated by the project team from LDC, BAI and BAS.

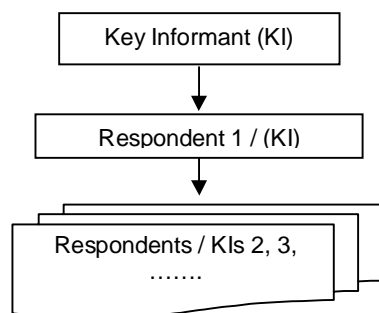
The participants of this training shall act as the trainers in the second level trainer's training to be conducted in the regional field units any day from May 31 to June 16, 2006. The team comprising the participants of the second level training are the technical staff, field coordinators and supervisors. These group will in turn serve as trainers or resource persons in the third level training. The third level training to be conducted any day from June 26 to 30 will be participated by the field data collectors.

4.2 Field Data Collection

On way of generating estimates other than direct interview of target respondents is to identify key informant who are best/knowledgeable person who could be the source or could provide information to trace another key informant or direct respondents. In such case, the "key informant" approach is used in conjunction with another approach, that is, snowball approach. Key informant approach requires the careful identification of a select group of formal and informal leaders, influential leaders or experts. It provides for structured contact with these informants, usually through direct interviews or a focus group format. On the other hand snowball approach is based on the premise that members of the rare population (in this case the poultry raisers) know one another.

The domain of this survey is the barangay. LGU PVO and BAS PASO shall assign/designate data collectors for the survey operation. Using a pre-formatted questionnaire, the key informant (KI) approach will be used primarily in this poultry survey. This method simply obtains information from a community resident or stakeholders in the area who is in position to know the Avian/Poultry population and/or industry situation as a whole. Selecting the KI or respondent is very important. Any of the following individuals can be possible key informants or respondents: 1) barangay captain, 2) livestock handlers, 3) barangay livestock technician, 4) municipal agricultural officers, and 5) poultry associations or commercial poultry operators/raisers. The selected individual is expected to have particular "expert" knowledge about the poultry industry, its stake holders and players in the community. In some cases, wherein the identified KI cannot answer all the information/data required, then the data collector could ask from the first KI to identify another KI who is more knowledgeable of the missing information/data. Thus, snowball approach begins when 2nd KI and 3rd KI and so forth are identified as needed. This procedure is repeated until all the items in the questionnaire are completely and satisfactorily filled-up. Although this method would hardly lead to representative samples, there are times when it may be the best method available. Snowball approach is especially useful when you are trying to reach populations that are inaccessible or hard to find. An illustration on how a snowball approach is conducted is shown below.

SNOWBALL APPROACH



4.3 Field Data Processing

The field data processing consists of two stages as follows:

1. Manual coding and editing: After the data collector has reviewed and completely filled-up all the items in the questionnaire, the verifier and the supervisor will do the manual editing to see if the data collected is consistent with the requirements in the editing guidelines. Editing guidelines will be provided by the ICTD of BAS.
2. Electronic data processing: The Provincial Processing Officer (PPO) and the Regional Processing Officer (RPO) of the BAS will be on top of this activity. The activity involves data coding, encoding, electronic data cleaning and generation of summary statistics at the provincial and regional levels.

4.4 Data Validation

This activity involves a thorough scrutiny of the data generated and to evaluate its consistency. This process is necessary to ensure that the results are acceptable, reliable and usable. Three levels of data validation will be conducted starting at the Provincial level, then at the regional level and finally at the national level.

VII. INSTRUCTIONS ON HOW TO ACCOMPLISH THE QUESTIONNAIRE

General Pointers

1. Accomplish the questionnaire properly and neatly.
2. Use pencil. Write entries legibly. Wrong entries must be properly erased and not crossed-out.
3. Enter answers properly on corresponding spaces provided.
4. For numerical answers, enter required number of decimal places in the space provided.
5. Leaving a blank space may indicate that the question was skipped. So, if the answer to a question is "none, enter "0" in the answer space. If the particular item does not apply, then a dash (-) should be entered on the answer space.

Survey Questionnaire

There will be two sets of questionnaire to be used in this survey. The following are:

1. Avian Population Survey Form #1 or APS Form #1 (for Backyard and Poultry Farm)
2. Avian Population Survey Form #2 APS Form #2 (Listings of Livestock and Poultry Establishment)

PART I. For APS FORM#1: Accomplish one questionnaire for each barangay.

BLOCK A – BARANGAY IDENTIFICATION

This block accounts for the geographic information about the barangay together with the key informants and their corresponding designations.

1. Region

Write the name of the region on the space provided. Enter the 2-digit code of the region inside the boxes provided.

2. Province

Record the name of the province on the space provided. Enter the 2-digit code of the province inside the boxes provided.

3. Municipality

Write the name of the municipality where the barangay being screened is located. Enter the 2-digit code of the municipality inside the boxes provided.

4. Barangay

Write the name of the barangay being covered/screened. Enter the 3-digit code of the barangay inside the boxes provided. Refer to the Philippine Standard Geographic Code (PSGC).

5. Name of Barangay Chairman

Write down the given name of the Barangay Chairman, followed by last name.

6. Respondent's Identification

Fill up the spaces provided for the name of respondents interviewed. Write the given name followed by last name. Opposite the name of each respondent interviewed, indicate the corresponding position/designation, e.g. Barangay Chairman, Barangay Officials, Livestock Handlers, Barangay Livestock Technician, Provincial Veterinarian/City Veterinarian, Municipal Agricultural Officer, Poultry Association, and others.

BLOCK B – FARM INFORMATION

This block asks for the inventory of poultry on all backyard and commercial farms within the barangay as of the reference date. Farms located outside the barangay are excluded even if the owner or operator lives within the barangay. Include inventory of government and non-government-owned farms within the barangay

B1. ON BACKYARD FARMS

Backyard farms any farm raising at least one head of animal or bird that do not qualify as commercial farm. A particular farm is considered backyard if: For gamefowl and ostrich from 1-19 heads or 49 heads and below for turkey, 1-499 quails and layers, 1-999 broilers, and 1-99 ducks.

Column 1 - Type of Poultry

Poultry refers to domesticated avian for the purpose of food consumption or the carcass of such avian dressed /processed for human consumption. Examples are chicken, duck, turkey, geese, quail and others.

Specific types of poultry are native/improved chicken, broiler, layer, gamefowls, quail, ducks, (such as mallard and muscovy), turkey, pet birds, geese, ostrich and others like pigeon/dove.

Native chicken is a common backyard fowl that is a mixture of different breeds. It is small, active, sensitive and capable of great flight when frightened.

Broilers are strains of foreign breeds of chicken, especially raised for meat purposes only. This type of chicken is usually disposed of at five to six weeks old.

Layer is a foreign strain female chicken regardless of age, raised mainly for table eggs.

Gamefowl refers to domesticated chicken, regardless of breed, age and sex raised solely for game or recreation purposes.

Quail is a small game bird found in temperate and tropical regions throughout the world and locally known as "pugo".

Duck is a general term for waterfowl belonging to the family Anatidae of either sex. The two common breeds are: 1) **Mallard** (brown in color) breed of duck commonly known as "itik" kept mainly for egg production, and 2) **Muscovy** (white in color) duck commonly known as "bibì" or "pato" used primarily for meat production and identified by its red knobby nodules along the eyes and above the base of the bill.

Turkey is a bird of the family Meleagrididae. It is a game bird having typically a bronzy lustrous plumage, a naked carunculate head and a tail that in the male is spread fanlike in display.

Goose is any of the numerous species of wild or domestic web-footed, flat-billed, large bird with powerful wings akin to the swans and ducks belonging to the family Anatidae, sub-family Anserinae.

Ostrich is a swift-footed flightless ratite bird of the genus *Struthio* having a downy neck and head, a body covered with soft feathers, thighs nearly bare, two-toed feet, and valuable wing and tail plumes for which it has been domesticated. It is the largest existing bird attaining a height of 6 to 8 feet and a weight of 300 pounds.

Column 2 - Inventory as of time of visit between July 1 to July 31, 2006 (Number of Birds)

For each type of poultry found in the barangay, get the total number of birds with or without housing provisions, as of the reference date.

Columns 3 - Number of Raisers

Ask the respondent the number of raisers with or without housing provisions by poultry type. Include also those poultry that fall under others.

B2. ON COMMERCIAL FARMS

Commercial farms are those having at least 21 heads of gamefowl and ostrich or at least 50 turkeys, 500 quails and layers, or 1,000 broilers, and 100 ducks. Include government and non-government owned farms.

Column 1 - Type of Poultry Farm

Ask for the type of poultry raised and indicate in the spaces provided. Refer to the list of poultry enumerated in item B1.

Column 2 - Type of Poultry Farm Operation

For each operator listed, indicate the type of poultry farm being operated. The type of poultry operations refers to broiler farm like: GP Farm (Grandparent Stock), PS Farm (Parent Stock), Grow out Farm (Integrator's Owned-Farm), and Contract Growers (Partnership/Integrators), Hatchery Farm, Layer Farm or Gamefowl.

Column 3 - Name of Farm

List down the registered names of the commercial farms located within the barangay.

Column 4 - Name of Mother Company/Address

List down the name of Mother Company.

Column 5 - Address/Location

List down the address of commercial farms.

Column 6 - Name of Contact Person

Ask for the name of the contact person or anyone who could give information about the farm.

Column 7 - Designation of Contact Person

Ask for the designation or position of the contact person in the farm.

Column 8 - Total Number of Houses

Ask for the total number of houses built for each type of poultry raised.

Column 9 - Maximum Capacity per house

Ask for the total number of birds that can be accommodated for one house.

Column 10 - Total Farm Capacity

Ask the total capacity of birds accommodated in all houses for each type of poultry.

Column 11 - Inventory as of the time of visit (July 1 to 31, 2006)

For each operator and type of farm, indicate the actual number of head for livestock and number of birds for poultry farms as of the reference date.

C. DATA COLLECTOR, VERIFIER, AND SUPERVISOR IDENTIFICATION

The data collector, the verifier and the supervisor should print their names and affix their signatures on the spaces provided. On the opposite side, indicate the date when the questionnaire was accomplished, edited and verified.

PART II. For APS FORM #2:

BLOCK A – BARANGAY IDENTIFICATION

This block accounts for the geographic information about the barangay together with the key informants and their corresponding designations.

1. Region

Write the name of the region on the space provided. Enter the 2-digit code of the region inside the boxes provided.

2. Province

Record the name of the province on the space provided. Enter the 2-digit code of the province inside the boxes provided.

3. Municipality

Write the name of the municipality where the barangay being screened is located. Enter the 2-digit code of the municipality inside the boxes provided.

4. Barangay

Write the name of the barangay being covered/screened. Enter the 3-digit code of the barangay inside the boxes provided. Refer to the Philippine Standard Geographic Code (PSGC).

5. Name of Barangay Chairman

Write down the given name of the Barangay Chairman, followed by last name.

6. Respondent's Identification

Fill up the spaces provided for the name of respondents interviewed. Write the given name followed by last name. Opposite the name of each respondent interviewed, indicate the corresponding position/designation, e.g. Barangay Chairman, Barangay Officials, Livestock Handlers, Barangay Livestock Technician, Provincial Veterinarian/City Veterinarian, Municipal Agricultural Officer, Poultry Association, and others.

7. Name of Establishment

Write the registered name of the establishments located within the barangay.

8. Type of Establishment

Classify the type of establishments such as dressing plant, feed mill, animal health laboratory, stock farm, warehouse/storage, auction market, abattoirs, cold storage, and others.

9. Location

Indicate the site of the establishment in the barangay.

10. Address

Write the exact address, the street number, sitio or barangay.

11. Name of Contact Person

Ask for the name of the contact person or anyone who could give information about the establishment. Given name followed by the last name.