

Philippines - Commercial Livestock and Poultry Survey - Layer 2017

Philippine Statistics Authority

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Overview

Identification

ID NUMBER

PHL-PSA-CLPS-Layer-2017-v1.0

Version

VERSION DESCRIPTION

Version 2.0: Final dataset for official estimates

PRODUCTION DATE

2018-05-22

Overview

ABSTRACT

The Republic of the Philippines is making great efforts to develop agriculture at a pace necessary to meet the food requirements of the fast-growing population. It has become necessary to use current agricultural statistics that will help present an accurate picture of the country's food situation. Especially important are the expected supply and consumption requirements of the people, particularly of meat products. The Commercial Livestock and Poultry Survey (CLPS) seeks to provide if but partially, such information.

The CLPS is one of the major regular activities of the Livestock and Poultry Statistics Division (LPSD) under the Economic Sector Statistics Service (ESSS) of the Philippine Statistics Authority (PSA). The CLPS is undertaken to provide an estimate on current inventory and supply and disposition of commercial livestock and poultry farms. The CLPS is done quarterly for swine, broiler, and layer while data collection for carabao, cattle, goat, duck and sheep is likewise conducted semi-annually.

The survey covers all provinces including Dinagat Islands and two (2) chartered cities (Davao City and Zamboanga City). Moreover, a separate structured questionnaire in the collection of the necessary information for each animal type is utilized.

Estimates generated from the CLPS and the Backyard Livestock and Poultry Survey (BLPS) are aggregated to come up with the total Livestock and Poultry (L&P) estimates. The data generated was perceived to be useful as guide for the government and the private sector in making plans and decisions with respect to farm production and improvement of the livestock and poultry industry.

The data generated from this survey are disseminated through the countrySTAT website and featured in the Quarterly Commodity Special Releases and Annual Commodity Situation Reports released every May.

The collection of data on this survey is undertaken by hired Statistical Researchers (SRs) while the electronic processing is done by the regular staff in the Provincial Statistical Offices (POs). The SRs are trained prior to field operations to ensure that the procedures and concepts are understood. The training includes mock interviews and dry-run exercises.

KIND OF DATA

Sample survey data [ssd]

UNITS OF ANALYSIS

Commercial Farm which can be a household or establishment/enterprise that raises any of the following livestock and poultry animals: carabao, cattle, swine, goat, chicken and duck.

A household/establishment is considered a commercial farm if it satisfies a pre-identified qualification that is discussed in Page 5 of the CLPS Manual found in Related Materials.

Scope

NOTES

The scope of the survey includes basic information on the characteristics and operations of commercial farms. Specifically, it aims to collect information on: inventory of chicken layers by age, number of culled layers sold live for dressing and sold live for other purposes, mortality rate, Egg Laying Efficiency Ratio (ELER), disposition of eggs by area of destination, assessment of farm production, and average liveweight per disposed bird.

TOPICS

Topic	Vocabulary	URI
Agriculture, Forestry, Fisheries	Philippine Statistics Authority	
Business statistics	Philippine Statistics Authority	

Coverage

GEOGRAPHIC COVERAGE

The geographic domain is provincial excluding National Capital Region (NCR).

UNIVERSE

The CLPS covers all livestock and poultry farms with commercial type of operation. Commercial farm refers to a farm or household operated by a farmer/household/operator that raises at least one of the following:

Livestock - Carabao, Cattle, Swine and Goat

Poultry - Layer, Broiler and Duck

Moreover, it must satisfy at least one of the following criteria:

Livestock

- at least 21 heads of adult and zero head of young
- at least 41 heads of young animals and above
- at least 10 heads of adult and 22 heads of young and above

Poultry

- at least 500 layers, or 1,000 broilers and above
- at least 100 layers and 100 broilers if raised in combination and above
- at least 100 head of duck regardless of age

Traders such as assemblers and distributors, etc. is in this survey.

Trader - a person or entity that buys and sells goods or commodities.

Assembler-a type of trader who sources and procures his/her stocks from contract growers or independent farmers in several barangays in a specific municipality, and transports the produce to a trading or market center.

Distributor - a trader who sells commodities to other traders and consumers.

Producers and Sponsors

PRIMARY INVESTIGATOR(S)

Name	Affiliation
Philippine Statistics Authority	National Economic and Development Authority

FUNDING

Name	Abbreviation	Role
Government of the Philippines	GOP	Full funding

Metadata Production

METADATA PRODUCED BY

Name	Abbreviation	Affiliation	Role
Livestock and Poultry Statistics Division	LPSD	Philippine Statistics Authority	Documenter

DATE OF METADATA PRODUCTION

2018-05-17

DDI DOCUMENT VERSION

Version 1.0 (March 2018). This is the first documentation prepared for this survey.

DDI DOCUMENT ID

DDI-PHL-PSA-CLPS_Layer-2017-v1.0

Sampling

Sampling Procedure

SAMPLING DOMAIN

The domain of the survey is the province. All livestock and poultry commercial farms or establishments in the province identified through the listing activities constitute the frame for the province.

SAMPLE SELECTION PROCEDURE

The sampling design used for each animal type are the same but are treated independently. The sampling design depends on the total number of commercial farms and the corresponding maximum housing capacities of the farms in the province. In provinces with less than 21 farms, all farms are completely enumerated. However, provinces with a large number of farms or those with 21 or more farms, stratification is applied using the Dalenius-Hodges method of stratification with the maximum housing capacity as stratification variable. The number of strata per province ranges from two (2) to four (4) depending on the heterogeneity or homogeneity of the maximum housing capacity. Sample allocation for each stratum is done using the Neyman procedure with coefficient of variation set at five percent (5%). A minimum of five (5) samples per stratum is allocated. A stratum may have less than 5 samples only if the total number of farms in that stratum is less than 5. Selection of samples from each stratum is done using simple random sampling.

The sample selection procedure is discussed as follows:

1. Rank all farms in ascending order according to their maximum housing capacity;
2. Delineate the stratum boundaries using Dalenius-Hodges method (unique stratum boundaries for each province are derived);
3. Determine the total number of commercial farms per stratum;
4. Allocate sample size for each stratum using Neyman procedure (a five percent (5%) coefficient of variation is assumed and a minimum of five (5) samples are taken when $N_h = 5$). For stratum with $N_h < 5$, all farms in that stratum shall be enumerated; and
5. Select the required number of sample farms using the simple random sampling method.

For provinces where stratified sampling is employed, in case of non-response, adjustment of expansion factor is implemented by stratum and by animal type using the status of the sample commercial farms.

Comprehensive discussion on the estimation procedure is found in Page 10 of the CLPS manual found in Related Materials.

Response Rate

In 2017, the quarterly response rate for CLPS at the national level ranges from 85-90 percent.

Weighting

The estimation procedure for provinces with completely enumerated farms is different from those provinces where stratified sampling method is applied.

COMPLETE ENUMERATION

Provincial totals for the completely enumerated provinces are obtained by simply summing up all the observations in the province.

STRATIFIED SAMPLING

Each stratum will yield an independent estimate. To generate the expanded estimate for the stratum, the unbiased total shall be multiplied to the expansion factor. Expansion Factor refers to the total number of commercial farms (N_h) in that stratum over the total number of responding sample farms (n_h') belonging to the same stratum.

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Comprehensive discussion on the estimation procedure is found in Page 10 of the CLPS manual found in the Related Materials.

Questionnaires

Overview

The CLPS - Layer questionnaire has nine (9) main blocks aimed to collect necessary information to come up with total egg production and culled layer production during the reference period. These blocks are discussed below:

Block A. GEOGRAPHIC INFORMATION: This accounts for the geographic information where the sample farm is located. It also includes the name and codes of the region, province, city/municipality and barangay.

Block B. SAMPLE IDENTIFICATION: This accounts for the unique identification of the sample farm. It includes the stratum number, farm serial number, name and location of the farm, name of the operator, name and classification of the respondent and farm status as of the date of visit.

Block C. INVENTORY: This aims to gather information on the inventory of animals present in the farm by age classification regardless of ownership as of the reference date.

Block D. EGG PRODUCTION INDICATORS: This aims to gather information on the monthly inventory of laying flock, egg laying efficiency ratio and mortality rate which are used in the derivation of egg production in the farm during the reference period.

Block E. DISPOSITION BY AREA OF DESTINATION: This obtains information on the area of destination of the commodity disposed.

Block F. NUMBER OF LAYERS AND GROWING FLOCK EXPECTED TO LAY EGGS: This intends to collect information on the number of chicken layers belonging to laying and growing flock expected to lay eggs and their corresponding ELER for the next reference period.

Block G. LAYERS DISPOSITION: This intends to gather information on the disposition of unproductive layers in the farm during the reference period.

Block H. ASSESSMENT OF FARM PRODUCTION: This intends to compare the farm's production for the current quarter as against the farm's production during the previous quarter and last year of the same quarter. The reason/s for change is, likewise, accounted.

Block I. CERTIFICATION: For record of Interviewer's identification, supervisor's identification and date of accomplishment and review.

Comprehensive discussion of the data items in the questionnaire is discussed in Chapter 8 (Instructions in Accomplishing CLPS Forms) in the CLPS Manual. Moreover, the 2017 CLPS- Layer questionnaire is attached in the Related Materials.

Data Collection

Data Collection Dates

Start	End	Cycle
2017-03-22	2017-03-31	April Round
2017-06-21	2017-06-30	July Round
2017-09-20	2017-09-29	October Round
2017-11-22	2017-12-01	January Round

Time Periods

Start	End	Cycle
2017-01-01		April Round
2017-04-01		July Round
2017-07-01		October Round
2017-10-01		January Round

Data Collection Mode

Face-to-face [f2f]

Data Collection Notes

The conduct of trainings for the CLPS is a requirement for the uniform cascading of concepts and procedures to be implemented during the enumeration and machine processing. Through these trainings, all personnel involved, including the Statistical Researchers (SRs) will be able to effectively perform their roles in the conduct of the survey. The training for SRs is conducted in all POs of PSA every survey round. Participants are SRs and selected Provincial Statistics Office staff. RSSO L&P representative/s may attend to assist in the training. The schedule of the third level training is done quarterly at least one (1) week prior to the conduct of field enumeration. For this training, there is a discussion on the overview of the survey, concepts and definitions, guidelines in accomplishing the survey forms, mock interview, manual editing and machine processing.

Prior to the start of enumeration, the SR together with the field supervisor, shall pay a courtesy call to the Punong Barangay and/or other barangay officials. They shall present a cover letter signed by the PSA authority who may be the Regional Director (RD) or the Provincial Statistics Officer (PSO) to inform them about the conduct of CLPS in the barangay and to ask their assistance in locating the farm and seeking the cooperation of the respondents. Moreover, this cover letter explains the importance of the survey, the information to be gathered from the farm and benefits in participating in this survey. The Punong Barangay shall affix his/her signature on the cover letter. This shall also be presented by the SR to the respondents upon enumeration. Enumeration of farms shall be done through a face-to-face interview with any of the qualified respondents.

Interview is conducted using the local dialect of the area of enumeration. Statistical Researchers were trained by their field supervisor/s the correct translation of data items in the questionnaire as to avoid confusion and misclassification of items. Prior to machine processing, local terms are translated into its english equivalent, if necessary and available.

In case of non-response, SRs were given instruction to collect necessary information such as estimated inventory and disposition of the sample commercial farm from qualified Key Informants. These estimates shall serve as indicator in the data review and validation but be excluded in the machine processing.

Supervision is conducted by the provincial L&P focal person to ensure the quality of data gathered by the SR. This activity is also conducted to address gray areas during the enumeration part of the survey.

The reference survey round (April Round, July Round, October Round, January Round) that is used to denote a certain survey period is based from the reference dates of the inventory of animals for CLPS (i.e. April 1, July 1, October 1 and January 1). This is also done to be consistent with the reference rounds used in the Backyard Livestock and Poultry Survey (BLPS) since the estimates generated from these two (2) surveys will be aggregated to come up with the total Livestock and Poultry (L&P) estimates.

Comprehensive discussion in the data enumeration process is discussed in Chapter 6 (Survey Operations Procedure) of the CLPS manual found in the Related Materials.

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Data Collectors

Name	Abbreviation	Affiliation
Philippine Statistics Authority	PSA	National Economic and Development Authority

Supervision

Field supervision is undertaken by the Provincial Statistics Office (PSO) staff in their respective area of assignments. The Provincial Statistics Officer serves as overall supervisor in the province, while the Chief of the Statistical Operation and Coordination Division - Regional Statistics Services Office (SOCD-RSSO) oversees the conduct of CLPS in the region. Technical staff from the Central Office, specifically from the Livestock and Poultry Statistics Division (LPSD), also makes field visits in some provinces to observe the field operations and help in addressing gray areas.

Among the responsibilities of the supervisor is to conduct training for Statistical Researchers prior to data collection, do spot checking and back checking activities during and after data collection, manual editing of accomplished survey returns, address problems encountered by the Statistical Researchers under his/her supervision and report to LPSD any significant

findings that may contribute to the analysis of the survey results.

Data Processing

Data Editing

Editing is the process of scrutinizing the accomplished CLPS forms as to completeness of required data items and consistency of data between items before it undergoes machine processing. Manual editing consists of checking for completeness, consistency and legibility of entries reported in the forms.

For CLPS, editing is done in two (2) stage. The first stage of editing is done during the data collection. The Statistical Researcher, before leaving the premises of the sample commercial farm, shall do field editing. This activity involves assuring that all data items in the questionnaires are asked and that the answers were written down correctly. The second stage of editing is conducted by the supervisor upon the submission of accomplished questionnaires/forms by the SR called manual editing.

Other Processing

The system used in processing the data collected from this survey was developed by the Systems Development Division (SDD) of PSA. CPro, the software used in most of the surveys of PSA, is utilized.

Using a pre-formatted template, consolidated estimates are generated thru the Provincial Summary Worksheets (PSW-C). This worksheet presents data for each sample commercial farm, raw provincial total data and expanded provincial total estimates.

These estimates are transferred manually into an excel-based validation sheet called the "Supply-Disposition Worksheets" where the PSO, together with the L&P focal person, act as data analysts. To ensure the quality of data, the generated outputs shall undergo data review and validation. Data review involves internal checks of the data collected, consistency and completeness check of data items and detection and correction of identified errors. Data validation, on the other hand, ensures that the estimates generated are truly reflective of the current industry situation. It involves a thorough analysis of the generated estimates using auxiliary information. Auxiliary information includes animal dispersal from government programs, weather condition, price trends, import and export among others. Data review and validation is supported by the Electronic Data Review Workbook (EDRW) Compilation System. This is a tool used in reviewing and validating the L&P statistics and commonly termed as "Supply-Disposition (S-D) Technique".

The outputs of the CLPS together with BLPS undergo three (3) levels of data review and validation. The first stage is at the Provincial level known as the Provincial Data Review (PDR) followed by the second level which takes place at the RSSOs, known as the Regional Data Review (RDR). During the RDR, the RSSOs shall likewise review and validate the outputs of the provinces under its jurisdiction.

The third level of data review and validation and is the final level is conducted at the Central Office. All outputs sent by the RSSOs shall be consolidated by the LPSD commodity specialists to generate the final livestock and poultry statistical tables as input in the preparation of reports.

Data Appraisal

Estimates of Sampling Error

Not computed

Other forms of Data Appraisal

To ensure the quality of its statistical services, the PSA has mainstreamed in its statistical system for generating production statistics, a quarterly data review and validation process. This is undertaken at the provincial, regional and national levels to incorporate the impact of events not captured in the survey. The data review process starts at the data collection stage and continues up to the processing and tabulation of results. However, data examination is formalized during the provincial data review since it is at this stage where the data at the province-level is analyzed as a whole. The process involves analyzing the survey data in terms of completeness, consistency among variables, trend and concentration of the data and presence of extreme observations. Correction of spotted errors in the data is done afterwards. The output of the process is a clean data file used in the re-computation of survey estimates. The estimates generated from the clean data set are thoroughly analyzed and validated with auxiliary information to incorporate the impact of information and events not captured by the survey. These information include results of the validating parameters on livestock and poultry, historical data series, report on weather condition, supply and demand, marketing of agricultural products, and information on livestock and poultry program implementation.