



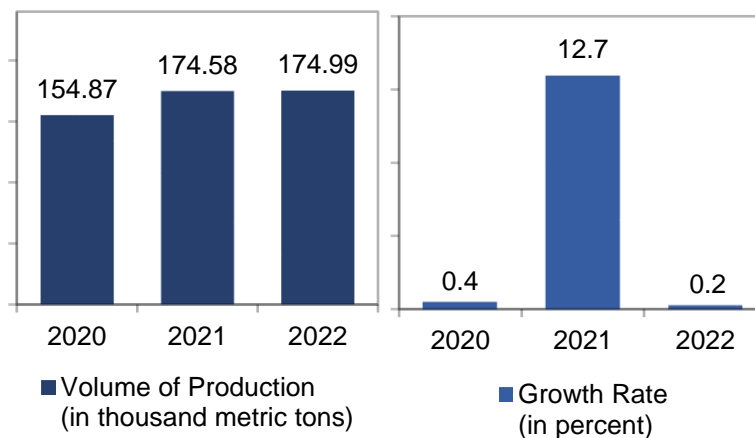
SPECIAL RELEASE

CHICKEN EGG SITUATION REPORT October to December 2022

Date of Release: 21 February 2023

Reference No. 2023 - SSO-014

Figure 1. Volume and Annual Growth Rate of Chicken Egg Production, Philippines October to December 2020-2022^P



^P – preliminary

Source: Philippine Statistics Authority, Backyard Livestock and Poultry Survey (BLPS), and Commercial Livestock and Poultry Survey (CLPS)

Total chicken egg production from October to December 2022 was estimated at 174.99 thousand metric tons. This was 0.2 percent higher than the previous year's same quarter output of 174.58 thousand metric tons. (Figure 1 and Table 1)

The top five regions with the highest volume of chicken egg production during the quarter were the following:

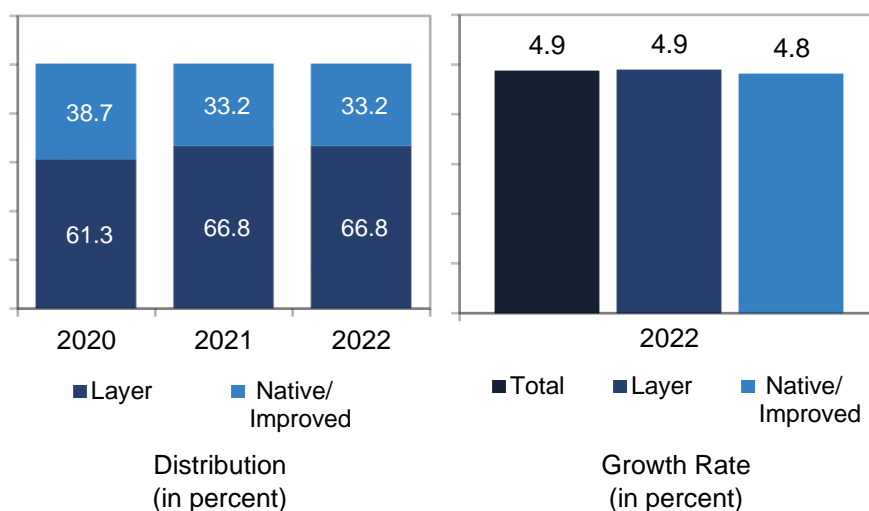
- CALABARZON, 50.93 thousand metric tons;
- Central Luzon, 32.87 thousand metric tons;
- Central Visayas, 19.51 thousand metric tons;
- Northern Mindanao, 19.16 thousand metric tons; and
- Davao Region, 9.09 thousand metric tons.



These regions accounted for 75.1 percent of the country’s total chicken egg production during the quarter.

In comparison to their output in the same quarter of 2021, 10 regions posted increases in production during the quarter. In terms of level, Northern Mindanao posted the highest annual increase of 1.84 thousand metric tons, from 17.32 thousand metric tons in the same period of the previous year to 19.16 thousand metric tons this quarter. (Table 1)

Figure 2. Distribution and Annual Growth Rate of Chicken Laying Flock Inventory by Type, Philippines: as of 31 December 2020-2022^P



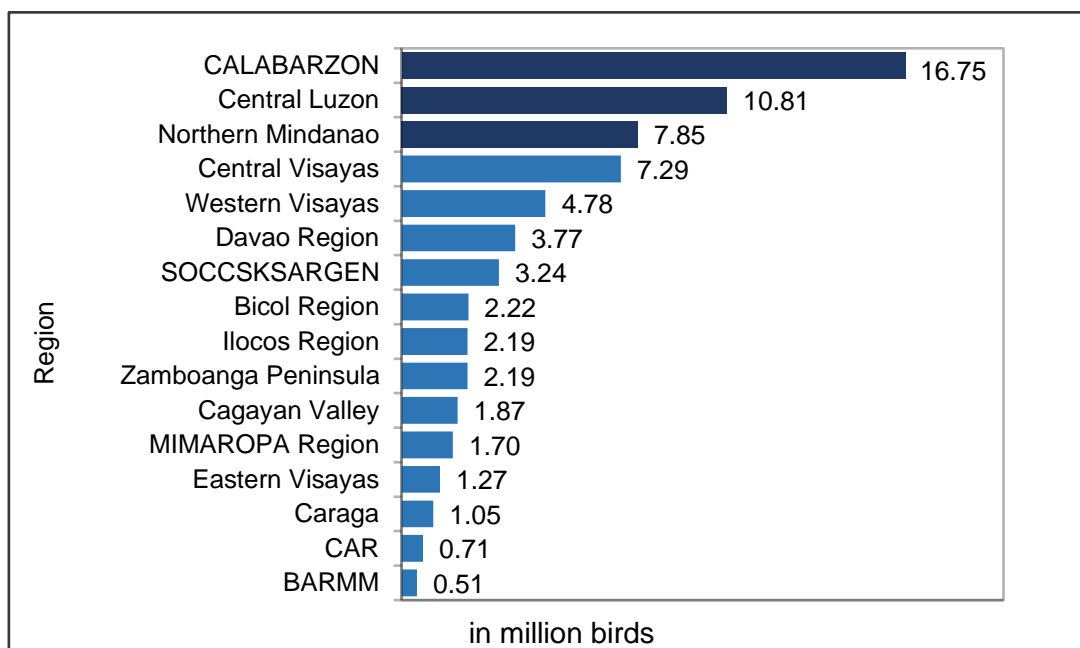
^r – revised

^P – preliminary

Source: Philippine Statistics Authority, BLPS, and CLPS

As of 31 December 2022, the total chicken laying flock population increased to 68.20 million birds, from 65.04 million birds in the same period of the previous year. Layer chicken and native/improved chicken inventory grew by 4.9 percent and 4.8 percent, respectively. Of the total laying flock, layer chicken shared 66.8 percent as of 31 December 2022, while the remaining 33.2 percent were native/improved chicken. (Figure 2 and Table 2)

Figure 3. Distribution of Total Chicken Laying Flock Inventory by Region Philippines: as of 31 December 2022^P

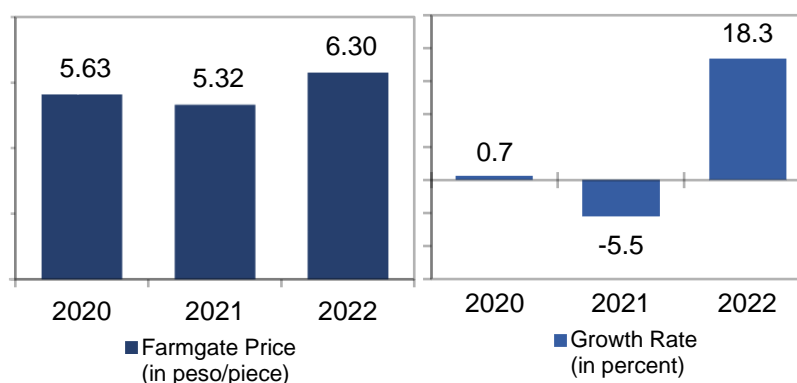


^P – preliminary

Source: Philippine Statistics Authority, BLPS, and CLPS

CALABARZON recorded the highest laying flock population of 16.75 million birds during the period. This was followed by Central Luzon and Northern Mindanao with corresponding inventories of 10.81 million birds and 7.85 million birds. These three regions shared 52.0 percent to the country’s total chicken laying flock population. (Figure 3 and Table 2)

Figure 4. Average Farmgate Price and Annual Growth Rate of Chicken Egg Farmgate Price, Philippines October to December 2020-2022^P



^P - preliminary

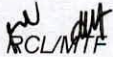
Source: Philippine Statistics Authority, 2020-2021 Farm Price Survey, and 2022 CLPS

The average farmgate price of chicken egg was quoted at PhP 6.30 per piece for this quarter, 18.3 percent higher than the previous year's same quarter price of PhP 5.32 per piece. (Figure 4 and Table 3)

During the reference quarter, the highest farmgate price was recorded in December at PhP 6.36 per piece, while the lowest was observed in October at PhP 6.22 per piece. (Table 3)



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STATISTICAL TABLES

Table 1. Volume of Chicken Egg Production by Region, Philippines
October-December 2020-2022^P

Region	Production (in metric tons)			Annual Growth Rate (in percent)		Percent Share
	2020	2021	2022 ^P	2021	2022 ^P	2022 ^P
Philippines	154,867	174,582	174,992	12.7	0.2	100.0
NCR	..	a/	..	..	..	..
CAR	1,245	1,108	1,293	-11.0	16.7	0.7
I - Ilocos Region	5,694	4,832	5,802	-15.1	20.1	3.3
II - Cagayan Valley	3,438	3,522	3,541	2.5	0.5	2.0
III - Central Luzon	29,742	34,855	32,865	17.2	-5.7	18.8
IVA - CALABARZON	45,947	53,968	50,926	17.5	-5.6	29.1
MIMAROPA Region	1,810	2,149	2,496	18.8	16.1	1.4
V - Bicol Region	3,777	3,682	3,713	-2.5	0.8	2.1
VI - Western Visayas	9,600	9,586	8,750	-0.1	-8.7	5.0
VII - Central Visayas	14,574	19,658	19,507	34.9	-0.8	11.1
VIII - Eastern Visayas	1,672	1,580	1,893	-5.5	19.8	1.1
IX - Zamboanga Peninsula	4,276	4,718	4,640	10.3	-1.7	2.7
X - Northern Mindanao	15,492	17,318	19,159	11.8	10.6	10.9
XI - Davao Region	7,198	7,421	9,094	3.1	22.5	5.2
XII - SOCCSKSARGEN	7,047	6,538	7,272	-7.2	11.2	4.2
XIII - Caraga	2,008	2,708	3,103	34.9	14.6	1.8
BARMM	1,347	938	938	-30.4	0.1	0.5

^P – preliminary

a/ - less than 1 metric ton

.. – data not applicable

Note: Details may not add up to total due to rounding. Growth rate and percent share may yield different results when computed manually due to rounding.

Source: Philippine Statistics Authority, Backyard Livestock and Poultry Survey, and Commercial Livestock and Poultry Survey

Table 2. Chicken Laying Flock Inventory by Chicken Type and Region, Philippines
As of 31 December 2020-2022^P

Region/Type	Inventory (in million birds)			Annual Growth Rate (in percent)		Percent Share
	2020	2021 ^r	2022 ^P	2021 ^r	2022 ^P	2022 ^P
Total Chicken						
Philippines	58.65	65.04	68.20	10.9	4.9	100.0
NCR	a/	a/	..	-90.7	..	..
CAR	0.67	0.71	0.71	5.7	0.5	1.0
I - Ilocos Region	2.45	2.15	2.19	-12.1	1.9	3.2
II - Cagayan Valley	1.91	2.09	1.87	9.5	-10.6	2.7
III - Central Luzon	10.50	11.63	10.81	10.7	-7.0	15.9
IVA - CALABARZON	12.64	16.72	16.75	32.3	0.1	24.6
MIMAROPA Region	1.45	1.49	1.70	2.5	14.5	2.5
V - Bicol Region	2.73	2.14	2.22	-21.5	3.6	3.3
VI - Western Visayas	4.56	4.83	4.78	5.8	-1.0	7.0
VII - Central Visayas	5.17	7.07	7.29	36.7	3.1	10.7
VIII - Eastern Visayas	0.79	0.83	1.27	4.2	54.4	1.9
IX - Zamboanga Peninsula	1.91	2.13	2.19	11.3	2.9	3.2
X - Northern Mindanao	5.91	5.51	7.85	-6.8	42.6	11.5
XI - Davao Region	3.44	3.38	3.77	-1.7	11.7	5.5
XII - SOCCSKSARGEN	3.11	2.98	3.24	-4.2	8.6	4.7
XIII - Caraga	0.94	1.03	1.05	9.2	2.6	1.5
BARMM	0.47	0.38	0.51	-20.4	34.8	0.7
Native/Improved Chicken						
Philippines	22.68	21.63	22.67	-4.7	4.8	100.0
NCR	..	a/	..	..	..	..
CAR	0.46	0.49	0.50	6.7	2.9	2.2
I - Ilocos Region	1.35	1.12	1.03	-17.1	-8.1	4.5
II - Cagayan Valley	1.09	1.11	1.02	1.2	-8.2	4.5
III - Central Luzon	2.19	1.76	2.03	-19.5	15.5	9.0
IVA - CALABARZON	0.51	0.55	0.56	8.1	2.7	2.5
MIMAROPA Region	1.21	1.14	1.24	-5.1	8.1	5.5
V - Bicol Region	2.11	1.52	1.60	-28.2	5.6	7.1
VI - Western Visayas	3.31	3.67	3.65	10.9	-0.4	16.1
VII - Central Visayas	2.27	2.11	2.46	-7.0	16.9	10.9
VIII - Eastern Visayas	0.32	0.38	0.47	18.0	25.0	2.1
IX - Zamboanga Peninsula	1.32	1.21	1.13	-8.7	-6.5	5.0
X - Northern Mindanao	2.55	2.78	3.05	9.2	9.7	13.5
XI - Davao Region	1.73	1.85	1.84	7.0	-0.5	8.1
XII - SOCCSKSARGEN	1.31	1.19	1.24	-8.7	3.6	5.5
XIII - Caraga	0.49	0.37	0.32	-23.8	-13.6	1.4
BARMM	0.47	0.38	0.51	-20.4	34.8	2.2

Continued

Table 2. -- Concluded

Region/Type	Inventory (in million birds)			Annual Growth Rate (in percent)		Percent Share
	2020	2021 ^r	2022 ^P	2021 ^r	2022 ^P	2022 ^P
Layer Chicken						
Philippines	35.97	43.42	45.54	20.7	4.9	100.0
NCR	a/	a/	..	-99.1	..	..
CAR	0.21	0.22	0.21	3.7	-4.9	0.5
I - Ilocos Region	1.09	1.03	1.16	-5.9	12.9	2.5
II - Cagayan Valley	0.81	0.98	0.85	20.7	-13.2	1.9
III - Central Luzon	8.32	9.87	8.78	18.6	-11.0	19.3
IVA - CALABARZON	12.13	16.18	16.18	33.4	0.0	35.5
MIMAROPA Region	0.24	0.34	0.47	40.3	35.9	1.0
V - Bicol Region	0.61	0.62	0.62	1.9	-1.2	1.4
VI - Western Visayas	1.26	1.16	1.13	-7.8	-2.9	2.5
VII - Central Visayas	2.90	4.96	4.82	70.9	-2.7	10.6
VIII - Eastern Visayas	0.47	0.45	0.80	-5.3	79.3	1.8
IX - Zamboanga Peninsula	0.59	0.92	1.06	56.0	15.2	2.3
X - Northern Mindanao	3.36	2.73	4.80	-18.9	76.1	10.5
XI - Davao Region	1.71	1.53	1.93	-10.4	26.4	4.2
XII - SOCCSKSARGEN	1.80	1.78	2.00	-1.0	12.0	4.4
XIII - Caraga	0.45	0.66	0.73	44.4	11.7	1.6
BARMM	..	..	..	..	..	..

^r – revised

^P – preliminary

a/ - less than 0.01 million birds

.. – data not applicable

Note: Details may not add up to total due to rounding. Growth rate and percent share may yield different results when computed manually due to rounding.

Source: Philippine Statistics Authority, Backyard Livestock and Poultry Survey, and Commercial Livestock and Poultry Survey

Table 3. Monthly Average Farmgate Price of Chicken Egg
Philippines: October-December 2020-2022^P

Month	Average Farmgate Price (PhP per piece)			Annual Growth Rate (in percent)	
	2020	2021	2022 ^P	2021	2022 ^P
Average	5.63	5.32	6.30	-5.5	18.3
October	5.57	5.22	6.22	-6.3	19.1
November	5.59	5.27	6.31	-5.7	19.7
December	5.74	5.46	6.36	-4.9	16.5

^P - preliminary

Note: Growth rate may yield different results when computed manually due to rounding.

Source: Philippine Statistics Authority, 2020-2021 Farm Price Survey, and 2022 Commercial Livestock and Poultry Survey

TECHNICAL NOTES

I. Introduction

The Chicken Egg Situation Report presents the industry situation in terms of volume of production, inventory by chicken type, and monthly average farmgate prices. It serves as a ready reference for the various clients and stakeholders of the Philippine Statistics Authority (PSA) in the agriculture sector.

The data for this report were collected by PSA through the two surveys, namely, Backyard Livestock and Poultry Survey (BLPS) and the Commercial Livestock and Poultry Survey (CLPS).

The BLPS aims to generate estimates on the supply and disposition of livestock and poultry commodities at the household level. In Q4 2022, the number of sample households covered was 21,501 from the 1,145 sample barangays nationwide. On the other hand, the CLPS seeks to generate estimates on the supply and disposition of livestock and poultry commodities from the sample establishments. There were 691 layer sample establishments covered in 2022.

Both surveys are conducted quarterly in all provinces including National Capital Region. Moreover, the commodities covered in the surveys include: cattle, carabao, swine, goat, chicken, duck, and other animals raised/tended by households and establishments.

II. Data Collection

A. Backyard Livestock and Poultry Survey

1. Data collection procedure

The field data collection for fourth quarter 2022 was conducted from 01 to 07 December 2022. The data collection was undertaken by hired Statistical Researchers (SRs) and is done through face-to-face interview with qualified respondents of the sample households. Prior to data collection, training of selected staff from Field Offices, including SRs, was conducted to ensure uniform understanding of concepts and proper implementation of survey procedures. Field and manual editing of the accomplished questionnaires was done to ensure completeness, consistency, and reasonableness of the information gathered.

2. Survey Questionnaire

The BLPS Questionnaire is a thirteen-page form composed of 16 blocks that aims to gather information on the basic characteristics and operations of the household.

The data items included in the survey are as follows:

- a. Type of Operation/Purpose
- b. Inventory
- c. Number of hatched live

- d. Number of acquired animal
- e. Dressed in the household/farm
- f. Sold live for dressing and for other purposes
- g. Disposition by areas of destination
- h. Average liveweight
- i. Average farmgate price
- j. Number of deaths/losses and cause/reason
- k. Egg production indicators
- l. Egg disposition

B. Commercial Livestock and Poultry Survey

1. Data collection procedure

The schedule of field data collection was during the last ten (10) days of November 2022. The data collection was undertaken by hired Statistical Researchers (SRs) and is done through a face-to-face interview with qualified respondents of the farm/establishment. Prior to data collection, training of Field Office personnel, including SRs, was conducted to ensure that the procedures and concepts of the survey are understood and properly implemented. Field and manual editing of the accomplished questionnaires was done to ensure completeness, consistency, and reasonableness of the information gathered.

2. Survey Questionnaire

The CLPS Layer Chicken Survey Questionnaire is a two-page questionnaire that aims to gather necessary information on supply and disposition of layer commercial farms/establishment.

The data items included in the survey are as follows:

- a. Type of Operation/Purpose
- b. Inventory
- c. Number of hatched live
- d. Number of acquired animals
- e. Dressed in the farm/establishment
- f. Sold live for dressing and for other purposes
- g. Disposition by areas of destination
- h. Average liveweight
- i. Average farmgate price
- j. Number of deaths/losses and cause/reason
- k. Egg production indicators
- l. Egg disposition

III. Sampling Design

A. Backyard Livestock and Poultry Survey

1. Sampling Frame

The BLPS sampling frame is based on the results of the 2017 Listing of Farm Household (LFH) and 2012 Census of Agriculture and Fisheries (CAF). For barangays not covered in the 2017 LFH, the list of households was taken

from the 2012 CAF. The sampling frame is updated quarterly based on the status of the sampled households using the structured Frame Maintenance Form (FMF) submitted by the PSOs every quarter.

2. Sample Selection Procedure

The BLPS uses two-stage sampling design. The first stage is the selection of barangays using probability proportional to size where the measure of size is the total animal inventory. The number of sample barangays is based on a target coefficient of variation of five (5) percent. The sample barangays are the same for all quarters of 2022.

The second stage is the selection of sample households that are engaged in livestock and poultry raising in the sampled barangays using systematic sampling.

The number of sample households per selected barangay is 20 but this could be less if the selected barangay has less than 20 households. The sample households per quarter are independent.

3. Estimation Procedure

a. Sampling Weights

a.1. Base Weight

The base weight is computed as follows:

$$w_{1i} = \begin{cases} \frac{\sum_{i=1}^A X_i - X_{certain}}{a'X_i} & , \text{if non - certainty brgy} \\ 1 & , \text{if certainty brgy} \end{cases}$$

$$w_{2ij} = \begin{cases} \frac{N_i}{n_i} & , \text{if household has at most 3 operators} \\ \frac{N_i}{n_i} \times \frac{M_{ij}}{m_{ij}} & , \text{if household has greater than 3 operators} \end{cases}$$

$$w_{ij} = w_{1i} \times w_{2ij}$$

Where:

w_{ij} = base weight of household j in barangay i

w_{1i} = 1st stage weight

w_{2ij} = 2nd stage weight

A = total number of barangays in the domain

a = barangay sample size in the domain

a' = non-certainty barangay sample size in the domain; equal to a if there are no certainty barangays

$X_{certain}$ = total animal inventory of all certainty barangays

X_i = size measure of barangay i
 N_i = total number of households in barangay i
 n_i = number of sample households in barangay i
 M_{ij} = total number of operators in household j in barangay i
 m_{ij} = number of sample operators in household j in barangay i
 i = subscript for barangay
 j = subscript for household

a.2. Adjustment Factor

The adjustment factor formula is given as follows:

$$A_p = \frac{\sum_{i=1}^a \sum_{j=1}^{n_i} w_{ij} X_{1ij}}{\sum_{i=1}^a \sum_{j=1}^{n_i} w_{ij} X_{2ij}}$$

Where:

A_p = adjustment factor for domain p

X_{1ij} = eligible status of household j in barangay i (1 if eligible, 0 otherwise)

X_{2ij} = responding status of household j in barangay i (1 if eligible, 0 otherwise)

Eligible households are the following:

- Interview completed;
- Refused to be interviewed without replacement;
- Temporarily away/Not at home without replacement; and
- HH temporarily not accessible without replacement.

Ineligible households are the following:

- Resides outside the barangay;
- Unknown in the locality; and
- Deceased (No other livestock and poultry operator in the household).

a.3. Final Weights

The final weights formula is given as follows:

$$w'_{ij} = w_{ij} \times A_p$$

Where:

w'_{ij} = final weights for domain p

w_{ij} = base weight of household j in barangay i

A_p = adjustment factor for domain p

b. Estimation of Total

b.1. Estimation of Provincial Total

Estimation of domain total is done per animal type and the formula is given as follows:

$$\hat{Y}_{qp} = \sum_{i=1}^a \sum_{j=1}^{n_i} w'_{ij} y_{ij}$$

Where:

\hat{Y}_{qp} = estimated total for domain p at quarter q

y_{ij} = survey data (inventory, production, etc.) for household j in barangay i

b.2. Estimation of Regional and National Total

The regional estimates are obtained by aggregating the estimates of the provinces within the region, while the national estimate is derived by adding all the regional estimates.

B. Commercial Livestock and Poultry Survey

1. Sampling Frame

The CLPS frame is based on the results of the 2021 Updating of the List of Establishments (ULE). It is updated quarterly based on the results of visit of the sample establishments using the Frame Maintenance Form (FMF).

2. Sample Selection Procedure

The CLPS uses a stratified sampling design with the maximum farm/housing capacity as stratification variable. Stratum boundaries are obtained using Dalenius-Hodges method. Sample size is determined using Neyman procedure with a target coefficient of variation of five percent (5%). A minimum of five (5) samples are taken when the population for the stratum is greater than or equal to five (5). For stratum with population less than five (5), all farms will be enumerated. The number of strata per province ranges from two (2) to four (4) depending on the homogeneity of the stratification variable.

Complete Enumeration (CE) is applied for provinces with less than 25 commercial farms/establishments, otherwise, stratified sampling design is used.

3. Estimation Procedure

a. Sampling weights

a.1. Base Weight

The base weight for CLPS is computed by animal type and province. The formula for base weights is given as follows:

$$w_h = w_{hi} = \left(\frac{N_h}{n_h} \right)$$

w_{hi} = weight of commercial farm/establishment i in stratum h
 N_h = total number of establishments in stratum h
 n_h = number of sample establishments in stratum h

a.2. Adjustment Factor

The adjustment factor is given as follows:

$$A_h = \frac{\sum_{i=1}^{n_h} w_{hi} X_{1hi}}{\sum_{i=1}^{n_h} w_{hi} X_{2hi}}$$

Where:

A_h = adjustment factor at stratum h
 w_{hi} = base weight of establishment i at stratum h
 n_h = number of sample establishments in stratum h
 X_{1hi} = eligible status of sample establishment i at stratum h
 (1 if eligible, 0 otherwise)
 X_{2hi} = responding status of sample establishment i at stratum h
 (1 if responding, 0 otherwise)

$$X_{1hi} \text{ (Eligible)} = \begin{cases} 1, & \text{if result of final visit is 1, 5, 6 and 7} \\ 0, & \text{otherwise} \end{cases}$$

$$X_{2hi} \text{ (Responding)} = \begin{cases} 1, & \text{if result of final visit is 1} \\ 0, & \text{otherwise} \end{cases}$$

Eligible establishments are the following:

- Operational
- Refusal
- Cannot be contacted/Not accessible/Temporarily away

Ineligible establishments are the following:

- Temporarily Stopped Operation
- Permanently Closed/Stopped Operation
- Shifted Farm Operation
- Cannot Be Located
- Not yet in operation
- Duplicate
- Out-of-scope – Recreation
- Out-of-scope – Change Sector
- Out-of-scope – Main Office/Ancillary Unit

a.3. Final Weights

The final weight formula is given as follows:

$$w'_{hi} = w_{hi} \times A_h$$

w'_{hi} = final weight of establishment i at stratum h
 w_{hi} = base weight of establishment i at stratum h
 A_h = Adjustment factor

b. Estimation

b.1. Estimation by Stratum

Each stratum yields an independent estimate. The formula to be used is given as follows:

$$\hat{Y}_h = \sum_{i=1}^{n_h} w'_{hi} y_{hi}$$

Where:

\hat{Y}_h = estimated total for stratum h of the province

w'_{hi} = final weight of establishments i at stratum h

n_h = no. of sample establishments in stratum h

y_{hi} = survey data (inventory, production, etc.) for establishment i in stratum h

b.2. Estimation of Provincial Total

The total estimate for the province is obtained by simply aggregating all the expanded stratum estimates in the province. Hence, the statement of the total for the pth province is given by:

$$\hat{Y} = \sum_{h=1}^L \hat{Y}_h$$

Where:

\hat{Y} = estimated total for the province

\hat{Y}_h = estimated total for stratum h of the province

L = total number of strata

b.3. Estimation of Regional and National Total

The regional estimates are obtained by aggregating the estimates of the provinces within the region, while the national estimate is derived by adding all the regional estimates.

IV. Concepts and Definitions of Terms

Farmgate price refers to the price received by raisers for their produce at the location of farm. Thus, the marketing costs, such as the transport and other marketing costs (if any) incurred in selling the produce, are not included in the farmgate prices.

Inventory refers to the actual number of chicken laying flock and native/improved adult female present in the farm as of a specific reference date.

Volume of production refers to the volume of chicken egg disposed from locally-raised duck including those chicken eggs which were shipped out to other regions/provinces.

V. Dissemination of Results and Revision

The PSA disseminates the Chicken Egg Situation Report quarterly and is uploaded in the PSA Website.

The livestock and poultry statistics follows the revision policy as stipulated in the PSA Board Resolution No. 1, Series of 2017-119 approving the revision of quarterly estimates on agricultural production, prices, and related statistics to be limited to the immediately preceding quarter and for the past three years with quarterly breakdown to be done only during May of the current year.

VI. Citation

This presents how the Technical Notes will be cited by users in their research works. It contains the following information:

1. Philippine Statistics Authority
2. Date of Publication/Release of the Technical Note
3. Title of the Technical Notes
4. Link to the Technical Notes

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