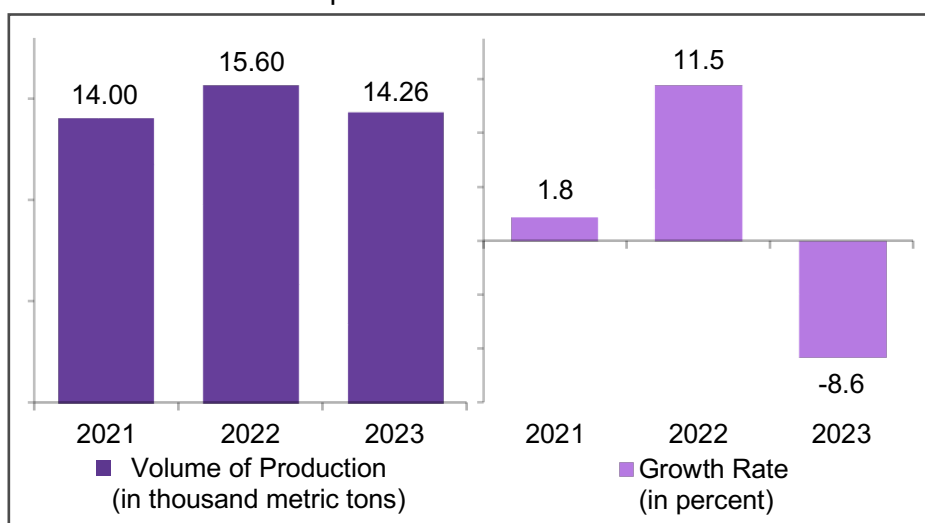# SPECIAL RELEASE

## DUCK EGG SITUATION REPORT
## April to June 2023

Date of Release: 22 August 2023
Reference No. 2023-SSO-140

Figure 1. Volume and Annual Growth Rate
of Duck Egg Production, Philippines
April to June 2021 – 2023$^p$



$^p$ – preliminary
Sources: Philippine Statistics Authority, Backyard Livestock and Poultry Survey
(BLPS), and Commercial Livestock and Poultry Survey (CLPS)

The volume of duck egg production from April to June 2023 was estimated at 14.26 thousand metric tons. This indicates a decline of -8.6 percent from the 15.60 thousand metric tons output in the same period of 2022. (Figure 1 and Table 1)

Among regions, Central Luzon was the top producer of duck egg with 7.69 thousand metric tons or 53.9 percent share to the total duck egg production during the quarter. Completing the top five regions with the highest volume of duck egg production in the second quarter of 2023 were the following:
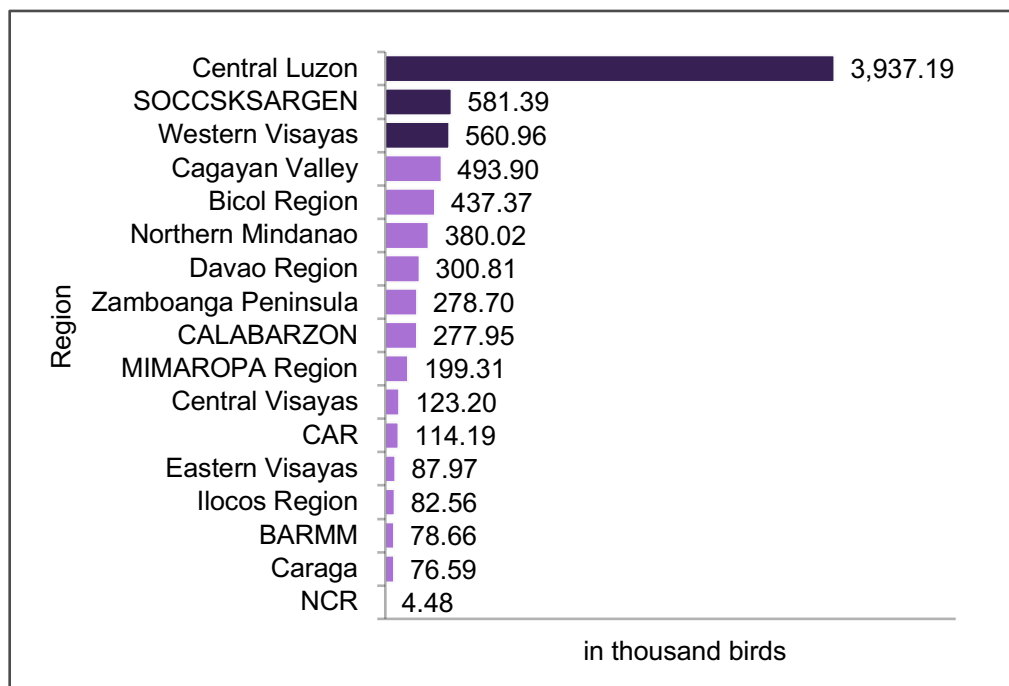
a. Western Visayas, 0.98 thousand metric tons;
b. Northern Mindanao, 0.96 thousand metric tons;
c. CALABARZON, 0.92 thousand metric tons; and
d. Bicol Region, 0.68 thousand metric tons.

These regions accounted for 78.8 percent of the country's total duck egg production during the quarter.

Compared with their outputs in the same quarter of 2022, 10 regions recorded decrements in duck egg production during the period. In terms of level, Central Luzon reported the highest decrease of 0.92 thousand metric tons, from 8.61 thousand metric tons in the second quarter of 2022 to 7.69 thousand metric tons in the same quarter of 2023. (Table 1)

Figure 2. Distribution of Duck Laying Flock Inventory by Region
Philippines: as of 30 June 2023$^p$

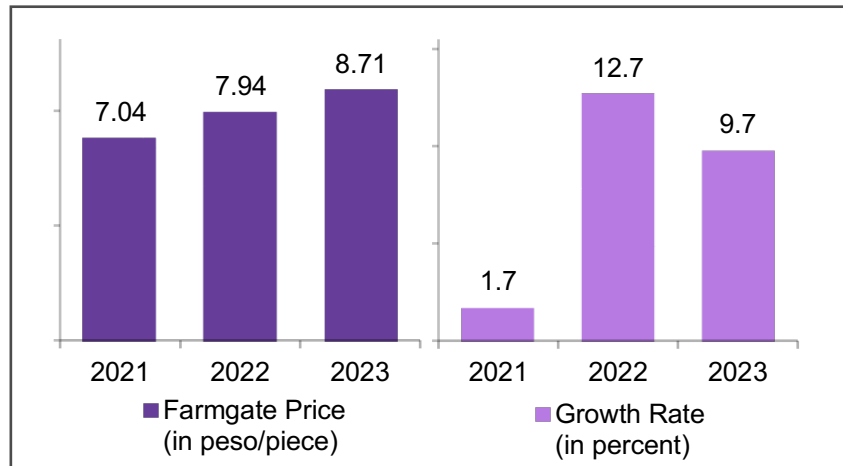| Region | in thousand birds |
|---|---|
| Central Luzon | 3,937.19 |
| SOCCSKSARGEN | 581.39 |
| Western Visayas | 560.96 |
| Cagayan Valley | 493.90 |
| Bicol Region | 437.37 |
| Northern Mindanao | 380.02 |
| Davao Region | 300.81 |
| Zamboanga Peninsula | 278.70 |
| CALABARZON | 277.95 |
| MIMAROPA Region | 199.31 |
| Central Visayas | 123.20 |
| CAR | 114.19 |
| Eastern Visayas | 87.97 |
| Ilocos Region | 82.56 |
| BARMM | 78.66 |
| Caraga | 76.59 |
| NCR | 4.48 |

$^p$ – preliminary
Sources: Philippine Statistics Authority, BLPS and CLPS

As of 30 June 2023, the total duck laying flock inventory was estimated at 8.02 million birds. This was 1.4 percent higher than the previous year's same period count of 7.90 million birds. (Table 2)

Central Luzon recorded the highest duck laying flock population of 3.94 million birds as of 30 June 2023. This was followed by SOCCSKSARGEN and Western Visayas with corresponding inventories of 0.58 million birds and 0.56 million birds. These three regions accounted for 63.4 percent of the country's total duck laying flock population during the period. (Figure 2 and Table 2)

Figure 3. Average Farmgate Price and Annual Growth Rate
of Farmgate Price of Duck Egg, Philippines
April to June 2021$^r$ – 2023$^p$



$^r$ – revised
$^p$ – preliminary
Sources: Philippine Statistics Authority, 2021 Farm Prices Survey,
2022 – 2023 BLPS, and 2022 – 2023 CLPS

The average farmgate price of duck egg for the second quarter of 2023 was quoted at PhP 8.71 per piece. This was 9.7 percent higher than the previous year's same quarter average farmgate price of PhP 7.94 per piece. (Figure 3 and Table 3)

In the second quarter of 2023, the highest average farmgate price was recorded in April at PhP 8.96 per piece, while the lowest average farmgate price was quoted in May at PhP 8.51 per piece. (Table 3)

**DIVINA GRACIA L. DEL PRADO, PhD**
Assistant Secretary
Deputy National Statistician
Sectoral Statistics Office

*RCL/PSJ*

# STATISTICAL TABLES

### Table 1. Volume of Duck Egg Production by Region, Philippines
### April to June 2021 – 2023ᵖ

| Region | Production (in metric tons) | | | Annual Growth Rate (in percent) | | Percent Share |
|---|---|---|---|---|---|---|
| | **2021** | **2022** | **2023ᵖ** | **2022** | **2023ᵖ** | **2023ᵖ** |
| | | | | | | |
| **Philippines** | **13,996** | **15,603** | **14,259** | **11.5** | **-8.6** | **100.0** |
| NCR | .. | 0 | a/ | .. | 0.0 | b/ |
| CAR | 123 | 136 | 165 | 11.1 | 21.5 | 1.2 |
| I – Ilocos Region | 169 | 208 | 167 | 22.6 | -19.4 | 1.2 |
| II – Cagayan Valley | 426 | 451 | 469 | 5.9 | 4.1 | 3.3 |
| III – Central Luzon | 6,209 | 8,608 | 7,685 | 38.6 | -10.7 | 53.9 |
| IVA – CALABARZON | 1,790 | 1,224 | 922 | -31.6 | -24.7 | 6.5 |
| MIMAROPA Region | 190 | 207 | 209 | 8.7 | 1.1 | 1.5 |
| V – Bicol Region | 773 | 624 | 684 | -19.3 | 9.7 | 4.8 |
| VI – Western Visayas | 1,203 | 1,019 | 980 | -15.3 | -3.8 | 6.9 |
| VII – Central Visayas | 115 | 66 | 57 | -42.3 | -13.1 | 0.4 |
| VIII – Eastern Visayas | 76 | 140 | 162 | 85.8 | 15.3 | 1.1 |
| IX – Zamboanga Peninsula | 595 | 516 | 534 | -13.2 | 3.5 | 3.7 |
| X – Northern Mindanao | 949 | 1,038 | 963 | 9.4 | -7.2 | 6.8 |
| XI – Davao Region | 407 | 495 | 453 | 21.7 | -8.5 | 3.2 |
| XII – SOCCSKSARGEN | 679 | 587 | 568 | -13.6 | -3.1 | 4.0 |
| XIII – Caraga | 126 | 126 | 90 | -0.2 | -28.0 | 0.6 |
| BARMM[1/] | 168 | 158 | 148 | -6.2 | -6.2 | 1.0 |

*.. – data not applicable*
*ᵖ – preliminary*
*a/ – less than 1.0 metric ton*
*b/ – less than 0.1 percent*
*[1/] – The sample coverage for BARMM in 2023 includes provinces of Maguindanao del Sur and Maguindanao del Norte (previously Province of Maguindanao), Cotabato City, and the Eight Area Clusters (63 barangays, previously from Province of Cotabato).*
*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.*
*Sources: Philippine Statistics Authority, Backyard Livestock and Poultry Survey, and Commercial Livestock and Poultry Survey*

## Table 2. Inventory of Duck Laying Flock by Region, Philippines
## As of 30 June 2021 – 2023$^p$

| Region | Inventory (in number of birds) | | | Annual Growth Rate (in percent) | | Percent Share |
|---|---|---|---|---|---|---|
| | 2021 | 2022$^r$ | 2023$^p$ | 2022$^r$ | 2023$^p$ | 2023$^p$ |
| | | | | | | |
| **Philippines** | **7,037,360** | **7,903,357** | **8,015,253** | **12.3** | **1.4** | **100.0** |
| NCR | .. | 7,577 | 4,482 | .. | -40.8 | 0.1 |
| CAR | 61,555 | 99,769 | 114,187 | 62.1 | 14.5 | 1.4 |
| I – Ilocos Region | 124,285 | 117,959 | 82,564 | -5.1 | -30.0 | 1.0 |
| II – Cagayan Valley | 290,049 | 476,666 | 493,900 | 64.3 | 3.6 | 6.2 |
| III – Central Luzon | 3,330,229 | 3,988,772 | 3,937,185 | 19.8 | -1.3 | 49.1 |
| IVA – CALABARZON | 272,330 | 301,494 | 277,946 | 10.7 | -7.8 | 3.5 |
| MIMAROPA Region | 179,413 | 192,909 | 199,311 | 7.5 | 3.3 | 2.5 |
| V – Bicol Region | 473,505 | 361,128 | 437,370 | -23.7 | 21.1 | 5.5 |
| VI – Western Visayas | 718,209 | 578,269 | 560,962 | -19.5 | -3.0 | 7.0 |
| VII – Central Visayas | 67,367 | 75,422 | 123,195 | 12.0 | 63.3 | 1.5 |
| VIII – Eastern Visayas | 46,737 | 70,272 | 87,973 | 50.4 | 25.2 | 1.1 |
| IX – Zamboanga Peninsula | 164,667 | 181,997 | 278,704 | 10.5 | 53.1 | 3.5 |
| X – Northern Mindanao | 345,647 | 410,221 | 380,023 | 18.7 | -7.4 | 4.7 |
| XI – Davao Region | 243,763 | 318,621 | 300,813 | 30.7 | -5.6 | 3.8 |
| XII – SOCCSKSARGEN | 580,869 | 581,076 | 581,392 | b/ | 0.1 | 7.3 |
| XIII – Caraga | 79,044 | 80,060 | 76,585 | 1.3 | -4.3 | 1.0 |
| BARMM$^{1/}$ | 59,691 | 61,145 | 78,661 | 2.4 | 28.6 | 1.0 |

.. – *data not applicable*

$^r$ – *revised*

$^p$ – *preliminary*

b/ – *less than 0.1 percent*

$^{1/}$ – *The sample coverage for BARMM in 2023 includes provinces of Maguindanao del Sur and Maguindanao del Norte (previously Province of Maguindanao), Cotabato City, and the Eight Area Clusters (63 barangays, previously from Province of Cotabato).*

*Note: Growth rate and percent share may yield different results when computed manually due to rounding.*

*Sources: Philippine Statistics Authority, Backyard Livestock and Poultry Survey, and Commercial Livestock and Poultry Survey*

## Table 3. Average Farmgate Price of Duck Egg
## Philippines: April to June 2021$^r$ – 2023$^p$

| Month | Average Farmgate Price (in peso per piece) | | | Annual Growth Rate (in percent) | |
|---|---|---|---|---|---|
| | 2021$^r$ | 2022$^r$ | 2023$^p$ | 2022 | 2023$^p$ |
| **Average** | **7.04** | **7.94** | **8.71** | **12.7** | **9.7** |
| April | 7.24 | 7.72 | 8.96 | 6.6 | 16.1 |
| May | 6.89 | 7.91 | 8.51 | 14.8 | 7.6 |
| June | 7.01 | 8.18 | 8.66 | 16.8 | 5.8 |

$^r$ – *revised*

$^p$ – *preliminary*

*Note: Quarterly average and growth rate may yield different results when computed manually due to rounding.*

*Sources: Philippine Statistics Authority, 2021 Farm Prices Survey, 2022 – 2023 Backyard Livestock and Poultry Survey, and 2022 – 2023 Commercial Livestock and Poultry Survey*

# TECHNICAL NOTES

## I.    Introduction

The Duck Egg Situation Report presents the industry situation in terms of volume of production, inventory by classification, 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 the second quarter of 2023, the number of sample households covered was 21,884 from the 1,156 sample barangays nationwide. On the other hand, the CLPS seeks to generate estimates on the supply and disposition of livestock and poultry commodities from sample establishments. There were 179 sample duck establishments covered in the second quarter of 2023.

Both surveys are conducted quarterly in all provinces, including National Capital Region (NCR). 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 the second quarter of 2023 was conducted from 01 to 08 July 2023. The data collection was undertaken by hired Statistical Researchers (SRs) 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 19-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 household operation
    b.  Inventory by age
    c.  Supply indicator (hatched live, received/acquired)

   d. Dressed in the household
   e. Sold live for dressing
   f. Sold live for other purposes (breeding, fattening)
   g. Average farmgate price
   h. Deaths/Losses
   i. Egg production indicators
   j. Average liveweight per bird
   k. Disposition by areas of destination
   l. Assessment of household's production

## B. Commercial Livestock and Poultry Survey

1. Data collection procedure

The schedule of field data collection for the second quarter of 2023 was during the last 10 days of June 2023. The data collection was undertaken by hired SRs through face-to-face interview with qualified respondents of the farms/ establishments. 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 Duck Survey Questionnaire is a five-page questionnaire that aims to gather necessary information on supply and disposition of duck commercial farms/establishments.

The data items included in the survey are as follows:
   a. Type of establishment operation
   b. Inventory by age
   c. Supply indicator (hatched live, received/acquired)
   d. Dressed in the establishment
   e. Sold live for dressing
   f. Sold live for other purposes (breeding, fattening)
   g. Average farmgate price
   h. Deaths/losses
   i. Egg production indicators
   j. Average liveweight per bird
   k. Disposition by areas of destination
   l. Assessment of establishment's production

## 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 Households (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 structured Frame Maintenance Form (FMF) submitted by the Provincial Statistical Offices every quarter.

2. Sample Selection Procedure

   The BLPS uses two-stage sampling design. The first stage is the selection of sample barangays or Primary Sampling Units (PSUs) using probability proportional to size where the measure of size is the total animal inventory.

   The second stage is the selection of sample households or Secondary Sampling Units (SSUs) 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.

   The sample size was determined based on a five percent (5%) target coefficient of variation.

3. Domain

   The domain of the survey is the province. In the case of NCR, the region is the domain.

4. Estimation Procedure

   a. Survey Weight

      a.1. Base Weight

         PSU Weight

         The PSU weight is computed as follows:

$$w_{1i} = \frac{X}{aX_i}$$

Where:
$w_{1i}$ = PSU weight
$a$ = barangay sample size for the province
$X$ = total animal inventory for the province
$X_i$ = animal inventory of barangay $i$
$i$ = subscript for barangay

## SSU Weight

The SSU weight is computed as follows:

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

Where:
$w_{2ij}$ = SSU weight
$N_i$ = total number of households in barangay $i$
$n_i$ = number of sample households in barangay $i$
$M_{ij}$ = total number of operators in household $j$ of barangay $i$
$m_{ij}$ = number of sample operators in household $j$ of barangay $i$
$j$ = subscript for household

## Base Weight

The base weight is the product of the PSU and SSU weights. That is,

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

Where:
$w_{ij}$ = base weight of household $j$ in barangay $i$
$w_{1i}$ = PSU weight
$w_{2ij}$ = SSU weight

a.2. Adjustment Factor

The adjustment factor to account for non-response 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 province $p$
$X_{1ij}$ = 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 responding, 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 Weight

The final weight formula is given as follows:

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

Where:
$w'_{ij}$ = final weight for province $p$
$w_{ij}$ = base weight of household $j$ in barangay $i$
$A_p$ = adjustment factor for province $p$

b. Estimation of Total

b.1. Estimation of Provincial Total

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

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

Where:
$\hat{Y}_p$ = estimated total for province $p$
$y_{ij}$ = 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 for the provinces within the region, while the national estimate is derived by adding all the regional estimates obtained in each region.

## 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 farms/establishments using the FMF.

2. ### Sample Selection Procedure

   The CLPS uses stratified probability proportional to size sampling design, where the establishment is the primary sampling unit. The animal type serves as a stratification variable and the size measure is the maximum farm/housing capacity of the establishment. Per animal type, the establishments are sorted by maximum farm/housing capacity and sample establishments are selected using systematic sampling. A panel sample establishment is maintained for a year and a new set of samples is selected during the first quarter of the next year.

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

3. ### Domain

   The domain of the survey is the province. In the case of NCR, the region is the domain.

4. ### Estimation Procedure

   a. ### Survey Weight

      a.1. ### Base Weight

      The base weight per animal type is given as follows:

      $$w_i = \frac{X}{aX_i}$$

      Where:
      $w_i$ = base weight of establishment $i$
      $a$ = number of sample establishments in the province
      $X_i$ = maximum farm/housing capacity of establishment $i$
      $X$ = total maximum farm/housing capacity of the province

      a.2. ### Adjustment Factor

      The adjustment factor to account for non-response is given as follows:

      $$A_p = \frac{\sum_{i=1}^{a} w_i X_{1i}}{\sum_{i=1}^{a} w_i X_{2i}}$$

Where:

$A_p$ = adjustment factor for province $p$

$X_{1i}$ = eligible status of establishment $i$ (1 if eligible, 0 otherwise)

$X_{2i}$ = responding status of establishment $i$ (1 if responding, 0 otherwise)

Eligible establishments are the following:
- Operational
- Refusal
- Cannot be contacted/Not accessible

Ineligible establishments are the following:
- Temporarily Stopped Operation
- Permanently Closed/Stopped Operation
- Shifted Farm Operation
- Cannot Be Located
- Duplicate
- Out-of-scope - Recreation
- Out-of-scope - Change Sector
- Out-of-scope - Main Office/Ancillary Unit

### a.3. Final Weight

The final weight formula is given as follows:

$$w_i' = w_i \times A_p$$

Where:

$w_i'$ = final weight of establishment $i$

$w_i$ = base weight of establishment $i$

$A_p$ = adjustment factor for province $p$

## b. Estimation

### b.1. Estimation for the Province

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

$$\hat{Y}_p = \sum_{i=1}^{a} w_i' y_i$$

Where:

$\hat{Y}_p$ = estimated total for province $p$

$y_i$ = survey data (inventory, production, etc.) for establishment $i$

> b.2. Estimation of Regional and National Total

> The regional estimates are obtained by aggregating the estimates for the provinces within the region, while the national estimates are derived by adding all the regional estimates obtained in each region.

## IV.  Concepts and Definitions of Terms

**Farmgate price** refers to the price received by raisers for their produce at the location of farm. Thus, marketing costs, such as 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 duck laying flock present in the farm as of a specific reference date.

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

## V.  Dissemination of Results and Revision

The PSA disseminates the Duck Egg Situation Report quarterly and is uploaded on 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

Philippine Statistics Authority. (22 August 2023). *Technical Notes on Q2 2023 Duck Egg Situation Report.* https://bit.ly/duck-egg-technical-notes

## VII.  Contact Information

Precious S. Jacinto
(Supervising Statistical Specialist)
Officer-in-Charge
Livestock and Poultry Statistics Division
Economic Sector Statistics Service
Sectoral Statistics Office
Philippine Statistics Authority
Email Address: p.jacinto@psa.gov.ph

**For data request, you may contact the:**
Knowledge Management and Communications Division
Telephone: (632) 8462-6600 loc. 839
Email Address: info@psa.gov.ph