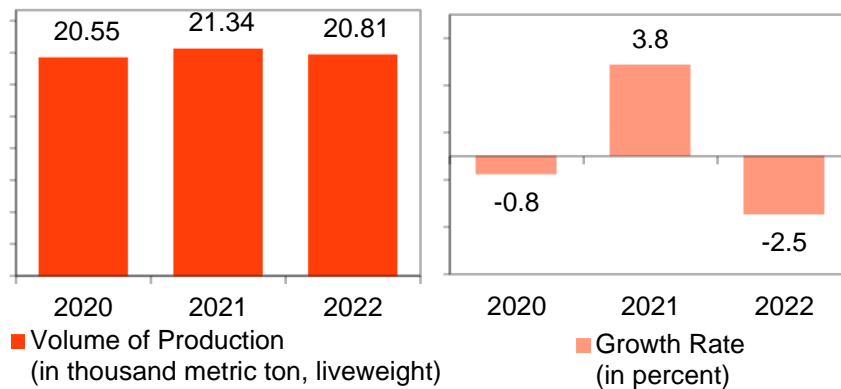


SPECIAL RELEASE

GOAT SITUATION REPORT October to December 2022

Date of Release: 21 February 2023
 Reference No. 2023–SSO-017

Figure 1. Volume and Annual Growth Rate of Goat 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 goat production from October to December 2022 was estimated at 20.81 thousand metric tons, liveweight. This indicates an annual reduction of -2.5 percent relative to its same quarter of the previous year’s output of 21.34 thousand metric tons, liveweight.

The top five regions with the highest volume of goat production at liveweight during the period were the following:

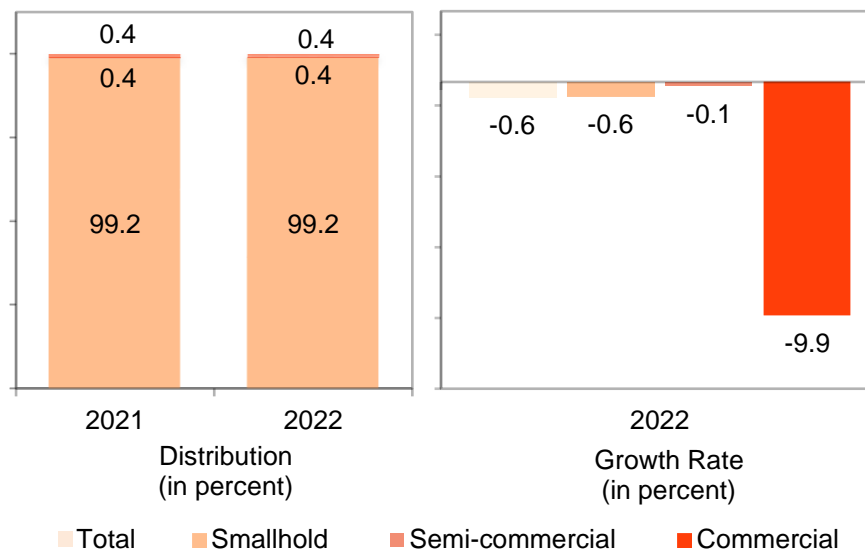
- a. Central Visayas, 3.00 thousand metric tons;
- b. Ilocos Region, 2.42 thousand metric tons;
- c. Central Luzon, 2.18 thousand metric tons;
- d. Northern Mindanao, 1.90 thousand metric tons; and
- e. Davao Region, 1.88 thousand metric tons.

These regions accounted for 54.6 percent share to the country’s total goat production.

In comparison to their output in the same quarter of 2021, seven regions posted decreases in production during the quarter. In terms

of level, Bangsamoro Autonomous Region in Muslim Mindanao registered the highest annual decline of 0.21 thousand metric tons from 1.46 thousand metric tons, in the same quarter of the previous year to 1.25 thousand metric tons, this fourth quarter of 2022. (Table 1)

Figure 2. Distribution and Annual Growth Rate of Goat Inventory by Classification¹, Philippines As of 31 December 2021-2022^P



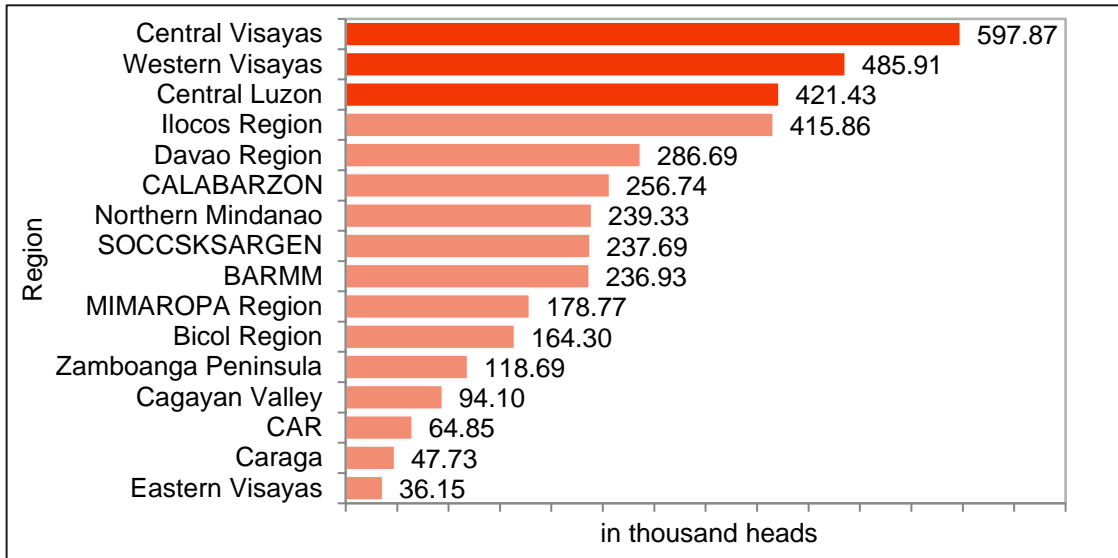
¹- Based on new classification of animals per PSA Board Resolution No. 04, series of 2022 dated 13 May 2022 (Refer to Technical Notes Section V for the new classification)

^P- preliminary

Source: Philippine Statistics Authority, BLPS, and CLPS

Total goat inventory as of 31 December 2022 was estimated at 3.88 million heads. This indicates a decrease of -0.6 percent from the previous year’s same period count of 3.91 million heads. Decreases in goat stocks were noted in all farm classifications with commercial farms posting the highest decline of -9.9 percent. Smallhold farms accounted for 99.2 percent of the total inventory during the period, while the remaining 0.8 percent comprised of semi-commercial and commercial farms. (Figure 2 and Table 2)

Figure 3. Distribution of Goat Inventory by Region
As of 31 December 2022^P

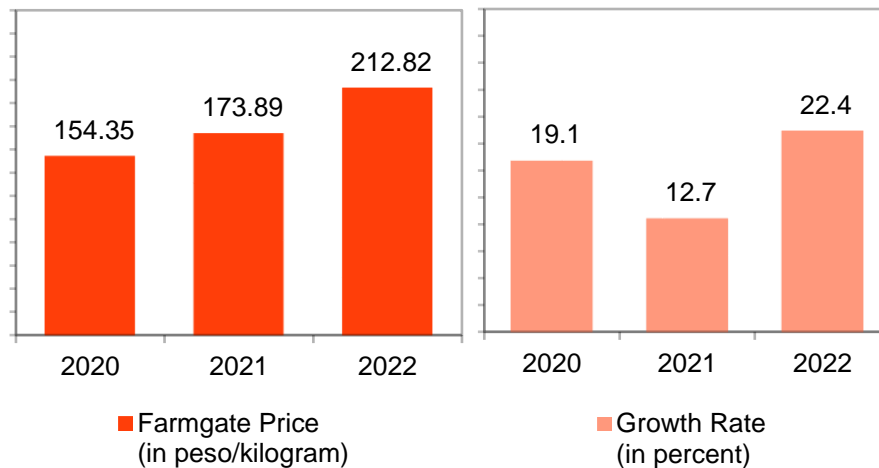


^P – preliminary

Source: Philippine Statistics Authority, BLPS, and CLPS

Central Visayas recorded the highest goat population of 597.87 thousand heads as of 31 December 2022. This was followed by Western Visayas and Central Luzon with corresponding inventories of 485.91 thousand heads and 421.43 thousand heads. These three regions shared 38.8 percent to the country’s total goat population. (Figure 3 and Table 2)

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



^P- preliminary

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

The average farmgate price of goat for slaughter was quoted at PhP 212.82 per kilogram, liveweight for this quarter. This was 22.4 percent higher than the previous year’s same period average

farmgate price of PhP 173.89 per kilogram, liveweight. (Figure 4 and Table 3)

During the reference quarter, the highest farmgate price was observed in December at PhP 230.66 per kilogram, liveweight, while the lowest was recorded in October at PhP 202.36 per kilogram, liveweight. (Table 3)

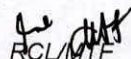


DIVINA GRACIA L. DEL PRADO, Ph.D.

(Assistant National Statistician)

Officer-in-Charge, Deputy National Statistician

Sectoral Statistics Office



RCL/MTF

STATISTICAL TABLES

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

Region	Production (in metric tons, liveweight)			Annual Growth Rate (in percent)		Percent Share
	2020	2021	2022 ^P	2021	2022 ^P	2022 ^P
Philippines	20,548	21,335	20,811	3.8	-2.5	100.0
CAR	211	230	254	9.0	10.4	1.2
I - Ilocos Region	2,209	2,529	2,424	14.5	-4.2	11.6
II - Cagayan Valley	374	384	370	2.7	-3.6	1.8
III - Central Luzon	2,323	2,464	2,176	6.1	-11.7	10.5
IVA - CALABARZON	1,417	1,563	1,695	10.3	8.4	8.1
MIMAROPA Region	742	670	683	-9.7	1.9	3.3
V - Bicol Region	796	929	978	16.7	5.3	4.7
VI - Western Visayas	1,736	1,759	1,795	1.3	2.0	8.6
VII - Central Visayas	3,069	2,937	2,996	-4.3	2.0	14.4
VIII - Eastern Visayas	221	169	175	-23.5	3.6	0.8
IX - Zamboanga Peninsula	638	810	853	27.0	5.3	4.1
X - Northern Mindanao	1,906	2,043	1,901	7.2	-7.0	9.1
XI - Davao Region	2,080	1,812	1,879	-12.9	3.7	9.0
XII - SOCCSKSARGEN	1,379	1,449	1,264	5.1	-12.8	6.1
XIII - Caraga	130	127	119	-2.3	-6.3	0.6
BARMM	1,319	1,460	1,250	10.7	-14.4	6.0

^P - preliminary

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. Goat Inventory by Classification and Region, Philippines
As of 31 December 2021-2022^P

Region/Classification	Inventory (in number of heads)		Annual Growth Rate (in percent)	Percent Share
	2021 ^r	2022 ^P	2022 ^P	2022 ^P
Total				
Philippines	3,908,131	3,883,032	-0.6	100.0
CAR	54,892	64,851	18.1	1.7
I - Ilocos Region	491,138	415,864	-15.3	10.7
II - Cagayan Valley	93,259	94,100	0.9	2.4
III - Central Luzon	382,703	421,434	10.1	10.9
IVA - CALABARZON	256,046	256,740	0.3	6.6
MIMAROPA Region	180,966	178,766	-1.2	4.6
V - Bicol Region	165,606	164,299	-0.8	4.2
VI - Western Visayas	510,526	485,911	-4.8	12.5
VII - Central Visayas	570,136	597,866	4.9	15.4
VIII - Eastern Visayas	25,744	36,145	40.4	0.9
IX - Zamboanga Peninsula	118,835	118,694	-0.1	3.1
X - Northern Mindanao	246,640	239,326	-3.0	6.2
XI - Davao Region	295,399	286,688	-2.9	7.4
XII - SOCCSKSARGEN	231,833	237,686	2.5	6.1
XIII - Caraga	46,280	47,733	3.1	1.2
BARMM	238,128	236,929	-0.5	6.1
Smallhold				
Philippines	3,875,342	3,851,989	-0.6	100.0
CAR	54,892	64,851	18.1	1.7
I - Ilocos Region	491,138	415,581	-15.4	10.8
II - Cagayan Valley	89,964	93,867	4.3	2.4
III - Central Luzon	374,830	418,469	11.6	10.9
IVA - CALABARZON	241,848	239,336	-1.0	6.2
MIMAROPA Region	179,865	176,955	-1.6	4.6
V - Bicol Region	165,501	164,054	-0.9	4.3
VI - Western Visayas	509,891	483,022	-5.3	12.5
VII - Central Visayas	569,497	597,866	5.0	15.5
VIII - Eastern Visayas	25,585	36,145	41.3	0.9
IX - Zamboanga Peninsula	118,835	118,448	-0.3	3.1
X - Northern Mindanao	245,908	238,437	-3.0	6.2
XI - Davao Region	294,083	284,739	-3.2	7.4
XII - SOCCSKSARGEN	230,066	236,360	2.7	6.1
XIII - Caraga	45,311	46,930	3.6	1.2
BARMM	238,128	236,929	-0.5	6.2

Continued

Table 2. -- Concluded

Region/Classification	Inventory (in number of heads)		Annual Growth Rate (in percent)	Percent Share
	2021 ^r	2022 ^p	2022 ^p	2022 ^p
<u>Semi-commercial</u>				
Philippines	15,348	15,325	-0.1	100.0
CAR	..	..	..	..
I - Ilocos Region	..	283	..	1.8
II - Cagayan Valley	358	233	-34.9	1.5
III - Central Luzon	2,764	1,173	-57.6	7.7
IVA - CALABARZON	7,407	7,225	-2.5	47.1
MIMAROPA Region	1,101	..	-100.0	..
V - Bicol Region	105	245	133.3	1.6
VI - Western Visayas	635	2,889	355.0	18.9
VII - Central Visayas	102	..	-100.0	..
VIII - Eastern Visayas	38	..	-100.0	..
IX - Zamboanga Peninsula	..	..	..	..
X - Northern Mindanao	118	889	653.4	5.8
XI - Davao Region	839	1,145	36.5	7.5
XII - SOCCSKSARGEN	912	440	-51.8	2.9
XIII - Caraga	969	803	-17.1	5.2
BARMM	..	..	..	..
<u>Commercial</u>				
Philippines	17,441	15,718	-9.9	100.0
CAR	..	..	..	..
I - Ilocos Region	..	..	..	..
II - Cagayan Valley	2,937	..	-100.0	..
III - Central Luzon	5,109	1,792	-64.9	11.4
IVA - CALABARZON	6,791	10,179	49.9	64.8
MIMAROPA Region	..	1,811	..	11.5
V - Bicol Region	..	..	..	..
VI - Western Visayas	..	..	..	..
VII - Central Visayas	537	..	-100.0	..
VIII - Eastern Visayas	121	..	-100.0	..
IX - Zamboanga Peninsula	..	246	..	1.6
X - Northern Mindanao	614	..	-100.0	..
XI - Davao Region	477	804	68.6	5.1
XII - SOCCSKSARGEN	855	886	3.6	5.6
XIII - Caraga	..	..	..	..
BARMM	..	..	..	..

^p - preliminary ^r - revised

.. – data not applicable

Note: 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 Goat for Slaughter
Philippines: October-December 2020-2022^P

Month	Average Farmgate Price (PhP per kilogram, liveweight)			Annual Growth Rate (in percent)	
	2020	2021	2022 ^P	2021	2022 ^P
Average	154.35	173.89	212.82	12.7	22.4
October	151.57	172.32	202.36	13.7	17.4
November	154.43	173.14	205.44	12.1	18.7
December	157.05	176.21	230.66	12.2	30.9

^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 Backyard Livestock and Poultry Survey

TECHNICAL NOTES

I. Introduction

The Goat 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 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 137 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 4th 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 breeders that gave birth
- d. Number of born live
- e. Number of acquired animals
- f. Slaughtered in the household
- g. Sold live for slaughter and for other purposes
- h. Disposition by areas of destination
- i. Average liveweight
- j. Average farmgate price
- k. Number of deaths/losses and cause/reason

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 Goat Survey Questionnaire is a two-page questionnaire that aims to gather necessary information on supply and disposition of goat commercial farms/establishment.

The data items included in the survey are as follows:

- a. Type of Operation/Purpose
- b. Inventory
- c. Number of breeders that gave birth
- d. Number of born live
- e. Number of acquired animals
- f. Slaughtered in the farm/establishment
- g. Sold live for slaughter and for other purposes
- h. Disposition by areas of destination
- i. Average liveweight
- j. Average farmgate price
- k. Number of deaths/losses and cause/reason

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:

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

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:

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

\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 p^{th} 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, 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 goat present in the farm as of a specific reference date.

Volume of production refers to the number of tended/raised goat disposed for slaughter including animals shipped-out for slaughter. This is expressed in metric tons, liveweight.

V. Farm Classification

The following are the new farm classifications and definitions based on the approved PSA Board Resolution No. 04, series of 2022:

Classification	Definition*
Smallhold	Tending not more than 35 does
Semi-commercial	Tending 36-100 does
Commercial	Tending more than 100 heads of does

*Based on Animal Unit index.

The data on inventory of goat by farm type (i.e., backyard and commercial) can still be accessed in the OpenSTAT website of PSA with the link: https://openstat.psa.gov.ph/PXWeb/pxweb/en/DB/DB_2E_LP/0022E4FINL0.px/?r_xid=bdf9d8da-96f1-4100-ae09-18cb3eae313.

VI. Dissemination of Results and Revision

The PSA disseminates the Goat 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.

VII. 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

VIII. Contact Information

Marisol T. Fallarme
Chief Statistical Specialist
Livestock and Poultry Statistics Division
Economic Sector Statistics Service
Sectoral Statistics Office
Philippine Statistics Authority
Email Address: m.fallarme@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