



REPUBLIC OF THE PHILIPPINES
PHILIPPINE STATISTICS AUTHORITY BOARD

PSA Board Resolution No. 14
Series of 2023

**APPROVING AND ADOPTING THE NEW SAMPLING DESIGN OF THE
CROPS PRODUCTION SURVEY (CrPS)**

WHEREAS, the Crop Production Survey (CrPS) is one of the statistical activities conducted quarterly by the Philippine Statistics Authority (PSA) which serves as the main source of data on production, area harvested, and number of bearing trees/hills/vines for crops other than palay and corn at the national and sub-national levels;

WHEREAS, the current sampling design of the CrPS is a two-stage sampling design for small farms, with city/municipality as the primary sampling unit (PSU) and farmer-producer as secondary sampling unit (SSU). For large farms, a maximum of five farms per province are taken as samples, while complete enumeration for provinces with less than five large farms;

WHEREAS, the current sampling design has limitations as follows: (1) it may not be able to include those barangays that are top producers of the commodity as a sample because it uses city/municipality as PSU, and (2) it combines household-based and establishment-based farms into one sampling design;

WHEREAS, the abovementioned areas for improvement in the current sampling design of the CrPS were the motivations in the redesigning to come up with a more efficient sampling design for the survey;

WHEREAS, following multiple reviews, simulations of various possible scenarios, and the pilot survey conducted in 2022 and 2023, two separate sampling designs for the CrPS have been put forward. These designs are as follows:

- (1) CrPS: Household for the household-based farms; and
- (2) CrPS: Establishment for the establishment-based farms.

The domain for both designs will be the province and other details as follows:

1. For CrPS: Household, a two-stage sampling design with two-way stratification will be employed, with the following details, to wit:
 - a. To stratify the barangays or PSUs, the stratification variables are the

number of trees/hills/vines for permanent crops and the area harvested/planted for temporary crops. For each stratification variable, two (2) strata are formed (Low, High) with the boundaries computed using Lavallee-Hidiroglou (LH) method. With this, four strata are formed as follows: Stratum 1 (Low for both permanent and temporary crops), Stratum 2 (Low for permanent and High for temporary), Stratum 3 (High for permanent and Low for temporary), and Stratum 4 (High for both permanent and temporary crops);

- b. The first stage is the selection of sample barangays or PSU using simple random sampling with a sampling rate of 25 percent. The second stage is the selection of households or SSU using simple random sampling and six (6) households will be the sample size per barangay;
 - c. A panel sample of barangays will be maintained for a year, and sample households will be rotated quarterly; and
 - d. The sampling frame is the 2012 Census of Agriculture and Fisheries (CAF) with updates based on the results of the CrPS. The sampling frame will also be updated based on the results of the recent CAF.
2. For CrPS: Establishment, a one-stage stratified sampling design will be utilized, with the following details, to wit:
- a. The establishment is the enumeration unit and total employment per crop is the stratification variable;
 - b. The sample size per domain and per crop is computed based on a target Coefficient of Variation (CV) of seven percent (7%). To take into account possible non-responses, five percent (5%) of the total sample will be drawn as additional samples. Complete enumeration will be employed for provinces with less than four (4) establishments per crop;
 - c. A panel sample of establishments will be maintained for a year, and a new set of sample establishments will be selected every first quarter of the succeeding year; and
 - d. The sampling frame is the 2021 List of Establishments (LE) and will be updated using the most recent LE results.

WHEREAS, the proposed design increases the precision of estimates as indicated in the simulation results and confirmed in the results of the pilot survey. Hence, it generates more reliable crop statistics;

WHEREAS, the Interagency Committee on Agriculture and Fishery Statistics (IACAFS) endorses the proposed new sampling design of the CrPS for approval of the PSA Board;

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NOW, THEREFORE, BE IT RESOLVED, that the PSA Board hereby approves the adoption of separate sampling designs for the following CrPS:

- (1) CrPS: Household for the household-based farms; and
- (2) CrPS: Establishment for the establishment-based farms,

where the domain will be province and other details as outlined below:

1. For CrPS: Household, a two-stage sampling design with two-way stratification will be employed, with the following details, to wit:
 - a. To stratify the barangays or PSUs, the stratification variables are the number of trees/hills/vines for permanent crops and the area harvested/planted for temporary crops. For each stratification variable, two (2) strata are formed (Low, High) with the boundaries computed using Lavalée-Hidiroglou (LH) method. With this, four strata are formed as follows: Stratum 1 (Low for both permanent and temporary crops), Stratum 2 (Low for permanent and High for temporary), Stratum 3 (High for permanent and Low for temporary), and Stratum 4 (High for both permanent and temporary crops);
 - b. The first stage is the selection of sample barangays or PSU using simple random sampling with a sampling rate of 25 percent. The second stage is the selection of households or SSU using simple random sampling and six (6) households will be the sample size per barangay;
 - c. A panel sample of barangays will be maintained for a year, and sample households will be rotated quarterly; and
 - d. The sampling frame is the 2012 CAF with updates based on the results of the CrPS. The sampling frame will also be updated based on the results of the recent CAF.
2. For CrPS: Establishment, a one-stage stratified sampling design will be utilized, with the following details, to wit:
 - a. The establishment is the enumeration unit and total employment per crop is the stratification variable;
 - b. The sample size per domain and per crop is computed based on a target Coefficient of Variation (CV) of seven percent (7%). To take into account possible non-responses, five percent (5%) of the total sample will be drawn as additional samples. Complete enumeration will be employed for provinces with less than four (4) establishments per crop;
 - c. A panel sample of establishments will be maintained for a year, and a new set of sample establishments will be selected every first quarter of the succeeding year; and
 - d. The sampling frame is the 2021 List of Establishments (LE) and will



be updated using the most recent LE results.


BE IT RESOLVED FURTHER that the PSA shall implement the use of the proposed sampling design of the CrPS starting third quarter of 2023.

Approved this 29th day of June 2023, in Quezon City.


ARSENIO M. BALISACAN, PhD
Secretary
National Economic and Development Authority
Chairperson, PSA Board



Attested by:


CLAIRE DENNIS S. MAPA, PhD
Undersecretary
National Statistician and Civil Registrar General
Philippine Statistics Authority
Chairperson, PSA Board Secretariat