REPUBLIC OF THE PHILIPPINES
PHILIPPINE STATISTICS AUTHORITY BOARD

PSA Board Resolution No. 03
Series of 2020

APPROVING AND ADOPTING THE NEW SAMPLING DESIGN OF THE PALAY PRODUCTION SURVEY (PPS) AND CORN PRODUCTION SURVEY (CPS)

WHEREAS, Executive Order (EO) No. 352, "Designation of Statistical Activities That Will Generate Critical Data for Decision Making of the Government and the Private Sector" issued on 01 July 1996, established the System of Designated Statistics (SDS) in the Philippine Statistical System;

WHEREAS, the SDS is a mechanism that identifies and designates the most critical and essential statistics required for social and economic planning/analysis based on approved criteria;

WHEREAS, the Palay Production Survey (PPS) and Corn Production Survey (CPS), which are statistical activities conducted quarterly by the PSA, are included in the SDS;

WHEREAS, the PPS and CPS are the main sources of data on production, area harvested and yield for palay and corn, respectively;

WHEREAS, the current sampling design of the PPS and CPS is stratified two-stage sampling with palay farm area as stratification variable. The first stage of selection is the selection of sample barangays or Primary Sampling Units (PSUs) using probability proportional to size (pps) with palay farm area as measure of size. The second stage is the systematic selection of sample palay farming households or Secondary Sampling Units (SSUs) which are also the samples for the CPS. No rotation of samples is employed and the domains are the provinces, excluding Batanes, but including Davao City and Zamboanga City;

WHEREAS, the current sampling design adopted by the PPS and CPS, which was developed nearly three decades ago with the 1991 Census of Agriculture and Fisheries as sampling frame, no longer captures the attributes of palay and corn farming in the country at the moment,

WHEREAS, the major limitations of the current sampling design include the following: (a) the CPS samples do not ensure representativeness of the population of corn farming households in the country as these samples are the samples used for the PPS which was designed based on the characteristics of palay farming; (b) the formation of 10 strata to classify barangays prior to selection of sample palay farming households may

lead to some strata with only few barangays when using the 2012 CAF as sampling frame; and (c) the use of same sample barangays and households in all rounds of the survey increases respondent's fatigue and does not allow updating of farming status of more households in the province;

WHEREAS, the abovementioned limitations of the current sampling design of the PPS and CPS were the motivations in the redesigning to come up with more efficient sampling design for the surveys;

WHEREAS, after series of reviews, simulation of various possible scenarios and conduct of pilot survey, a combined survey-based and model-based estimation for the PPS and CPS is proposed with the following details:

(a) For the survey-based, the sampling design is two-stage where:

(i) The first stage is the selection of sample barangays or PSUs using probability proportional to size (pps) systematic with palay farm area as measure of size for PPS and corn farm area for CPS;

(ii) The second stage is the selection of palay/corn farming households or SSUs using systematic sampling;

(iii) Rotation of samples is done annually for barangays and quarterly for farming households. However, while the COVID-19 pandemic continues to affect mobility, sample farming households are rotated annually; and

(iv) Samples for CPS are independent from PPS and the provinces are the domains of the surveys.

(b) For model-based estimation, regression models with various auxiliary variables will be used to generate estimates for palay and corn production, and area harvested in selected minor producing provinces which are not scheduled for survey during the quarter.

WHEREAS, the proposed design has the following advantages: (a) increases precision of estimates as confirmed in the results of the pilot survey, thus generating more reliable palay and corn statistics; (b) ensures representativeness of drawn samples due to the independent selection of samples for PPS and CPS, use of appropriate measure of size for each survey, and the use of the latest available sampling frame; (c) reduces response burden and allows updating of the farming status of more households in the province; (d) increases the provincial domain with the inclusion of Batanes; and (e) reduces budgetary requirement with the use of combined survey-based and model-based estimation for the PPS and CPS;

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

WHEREAS, the PSA shall implement the use of a combined survey-based and model-based estimation as sampling design for the PPS and CPS starting first quarter of 2021;

NOW, THEREFORE, BE IT RESOLVED, that the PSA Board approves the adoption of a combined survey-based and model-based estimation as sampling design for the PPS and CPS, with the following details, to wit:

(a) For the survey-based, the sampling design is two-stage where:

(i) The first stage is the selection of sample barangays or PSUs using probability proportional to size (pps) systematic with palay farm area as measure of size for PPS and corn farm area for CPS;

(ii) The second stage is the selection of palay/corn farming households or SSUs using systematic sampling;

(iii) Rotation of samples is done annually for barangays and quarterly for farming households. However, while the COVID-19 pandemic continues to affect mobility, sample farming households are rotated annually; and

(iv) Samples for CPS are independent from PPS and the provinces are the domains of the surveys.

(b) For model-based estimation, regression models with various auxiliary variables will be used to generate estimates for palay and corn production, and area harvested in selected minor producing provinces which are not scheduled for survey during the quarter.

Approved this 11th day of August 2020, in Metro Manila.

DENNIS S. MAPA, Ph.D.
Undersecretary
National Statistician and Civil Registrar General
Philippine Statistics Authority
Designated Chairperson, PSA Board