

FOREWORD

This Manual of Operation deals with the mechanics of the Palay and Corn Stock Survey (PCSS 1). It will serve as guide for the Provincial Operations Center (POC) personnel in accomplishing the questionnaires and in the preparation of field reports. Reading the Manual thoroughly will also help them resolve problems they might encounter during the field operation phase. The PCSS 1 is a nationwide activity of the Bureau of Agricultural Statistics (BAS) intended to provide an inventory of palay and corn stock held in the households during the reference month.

To a large extent, the success of this statistical activity will depend on the accuracy of data gathered as this will be of assistance to policy-makers in the government as well private sector. All personnel of the POC are expected to understand fully the basic concepts and methodology of the PCSS 1 and to perform their duties honestly, efficiently and promptly.

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Director

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I. INTRODUCTION:

The availability of information on current supply of rice and corn is an essential factor in the formulation of agricultural economic programs and policies on food security.

The information is even more relevant due to the occurrence of typhoons and other natural calamities in the country. Also, an important factor is the ever changing conditions affecting the agricultural sector.

In this regard, the Bureau of Agricultural Statistics (BAS) in coordination with the National Food Authority (NFA) has come up with the surveys that will serve as basis in the decision making regarding the staple cereal. Information on the current level of grain stocks in the country will guide policy makers whether to export or import rice and/or corn in the future.

For almost three (3) decades, the collection of this stock information has been a continuing activity of the Bureau.

II. OBJECTIVES:

The general purpose of Palay and Corn Stock Survey of households is to gather information on the current level of stock being maintained by farming and non-farming households. The data to be generated from the survey seek to serve the following objectives:

1. to generate estimate of current stock of rice and corn in farming and non-farming households;
2. to serve as input in the analysis of the seasonal trends and variations in the supply of rice and corn;
3. to serve as input for forecasting future supply, demand and prices of palay and corn;
4. to assist policy-makers in the formulation, implementation and administration of agricultural economic programs; and
5. to guide farmers in their decision making relative to their agricultural activities geared towards improvement of their profitability.

III. GEOGRAPHICAL SCOPE:

The Palay and Corn Stock Survey (PCSS 1) is an offshoot of the current parallel run of the Palay and Corn Production Survey (PCPS).

The provinces are divided into four (4) groups:

A. Pure Palay Provinces

- | | |
|------------------|------------------------|
| 1. Apayao | 12. Batangas |
| 2. Kalinga | 13. Mindoro Occidental |
| 3. Ilocos Norte | 14. Mindoro Oriental |
| 4. Ilocos Sur | 15. Sorsogon |
| 5. La Union | 16. Aklan |
| 6. Nueva Vizcaya | 17. Antique |
| 7. Bulacan | 18. Capiz |
| 8. Nueva Ecija | 19. Northern Samar |
| 9. Pampanga | 20. Western Samar |
| 10. Tarlac | 21. Surigao Norte |
| 11. Laguna | 22. Surigao Sur |

B. Pure Corn Provinces

- | | |
|-----------------------|-------------------|
| 1. Cebu | 5. Davao City |
| 2. Negros Oriental | 6. Davao Oriental |
| 3. Misamis Occidental | 7. Saranggani |
| 4. Misamis Oriental | |

C. Palay/Corn Provinces (Overlap)

- | | |
|-----------------------|-----------------------|
| 1. Pangasinan | 14. Zamboanga Sur |
| 2. Cagayan | 15. Zamboanga Sibugay |
| 3. Isabela | 16. Bukidnon |
| 4. Quezon | 17. Lanao Norte |
| 5. Palawan | 18. Compostela Valley |
| 6. Albay | 19. Davao |
| 7. Camarines Sur | 20. Davao Sur |
| 8. Masbate | 21. North Cotabato |
| 9. Iloilo | 22. South Cotabato |
| 10. Negros Occidental | 23. Sultan Kudarat |
| 11. Bohol | 24. Agusan Sur |
| 12. Leyte | 25. Lanao Sur |
| 13. Zamboanga Norte | 26. Maguindanao |

D. Non-Palay/Non-Corn Provinces (Minor)

- | | |
|---------------------|--------------------|
| 1. Abra | 14. Catanduanes |
| 2. Benguet | 15. Guimaras |
| 3. Ifugao | 16. Siquijor |
| 4. Mt. Province | 17. Biliran |
| 5. Quirino | 18. Eastern Samar |
| 6. Aurora | 19. Southern Leyte |
| 7. Bataan | 20. Zamboanga City |
| 8. Zambales | 21. Camiguin |
| 9. Cavite | 22. Agusan Norte |
| 10. Rizal | 23. Basilan |
| 11. Marinduque | 24. Sulu |
| 12. Romblon | 25. Tawi-tawi |
| 13. Camarines Norte | |

IV. FREQUENCY OF DATA COLLECTION:

The PCSS 1 is a monthly survey and the actual data collection starts on the 1st day of the month and extends until all samples are covered but not later than the 4th day of the reference month. Strict adherence to the data collection schedule is required to minimize memory bias and to come up with the palay and corn stock estimates at the earliest possible time.

V. Sampling Design:

The PCSS 1 uses the Palay and Corn Production Survey (PCPS) frame. There are four (4) replicates of the PCPS but the PCSS 1 covers only one (1) replicate barangays. The PCSS 1 employs a two-stage stratified sampling with the barangay as the primary sampling unit (psu) and the households as the secondary sampling unit (ssu).

a. First Stage (Primary) Sampling Unit

- i. **Pure Palay/Corn Provinces.** For pure palay and corn provinces or those provinces whose major crop is either palay or corn, ten (10) sample barangays from replicate 2 are covered.
- ii. **Palay/Corn Overlap Provinces.** In provinces where both palay and corn are the major crops, five (5) barangays are drawn from palay barangays and another five (5) barangays from corn barangays.

iii. For Minor Provinces. In other provinces whose major crop grown is neither palay nor corn, only five (5) sample barangays are drawn.

b. Second Stage (Secondary) Sampling Unit

All sample households in the sample barangay.

Since the selection of sample households for PCPS covers only farming households, five (5) non-farming households are added to the PCSS 1 sample household in the sample barangays. Non-farming households are selected thru the Right Coverage Approach with a defined starting point and random start.

VI. ESTIMATION PROCEDURE

The provincial estimate is given as follows:

Where:
$$\hat{Y}_p = \sum_{jki} \left[\left(\frac{\sum_{k=1}^n y_{ijk}}{n_j} \right) N_j \right]$$

Estimation Procedure (con't.)

\hat{Y}_p estimated total stock in the province for i^{th} type of cereal during the specified period

y_{ijk} observation from the k^{th} sample in the j^{th} category (farming or non-farming) for the i^{th} type of cereal

n_j number of responding households samples for in the j^{th} category

N_j total number of households in the j^{th} category

The estimate of the total stock in the province is simply obtained by:

- a. for each type of cereal, multiply the average stock held by the reporting households by the total number of households under the farming and non-farming category; and then

- b. for each type of cereal, add the estimated stock held by the farming and non-farming households.

The expansion factor of the PCSS 1 is based on the 1991 CAF number of farming and non-farming households which is updated in July every year using the projected mid-year population estimate.

VII. SURVEY OPERATION PROCEDURES

A. Who will conduct the survey?

The PCSS 1 is one of the regular surveys of the Bureau. Workload of each field staff shall be determined by the PASO based on the area(s) of assignment, location of samples and other workloads. Likewise, corresponding travel expense shall be provided charge to the travel allocation of the province.

The PASO is responsible for the field supervision and proper conduct of the survey. He/she must see to it that the field staff understand the concepts, definitions and procedures before sending them out for actual operation (through proper re-orientation and training).

B. Method of data collection

At the beginning of the month, the field staff shall visit the sample barangays/households and collect the information through personal interview. With the 1st day of the month as of 6:00 AM as the reference date, the field staff shall ask the respondents their stock stored in the household, in another household or in non-commercial granaries. Answers to queries are entered in a pre-formatted questionnaire.

C. Field processing of survey returns

Completed survey returns shall be edited, compiled and summarized by the field staff. They shall also compute the initial estimate of palay and corn stock for the barangay (raw data) and province using the prescribed estimation procedure.

D. Submission of survey returns

Upon completion of field processing and review of the initial provincial estimate, the PASO shall send the survey returns to the Central Office through SOCD. Also, included for submission are the prescribed tables (Tables 1-3).

Among others, he shall include in his report reasons/justifications for significant movement in the stock level.

E. Central Office processing/analysis and report writing

Incoming PCSS 1 returns from the provinces shall be properly recorded, checked for completeness at the SOCD. Tables 1-3 shall also be checked for completeness and accuracy of the computations of the provincial estimates.

The Cereal Statistics Section (CSS) shall review the result and then process the report using EXCEL. Properly processed reports shall then be tabulated and included in the formulation of national estimates. Included in the report are the survey results of stocks from commercial warehouses and NFA depositories undertaken by the National Food Authority (NFA).

A written report on the analysis shall be prepared and submitted to the Office of the Director/Assistant Director for review and approval. Final report shall be prepared and submitted to the Office of the Secretary and USEC for Policy and Planning. The report shall be uploaded in the web for clientele/researchers.

VIII. INSTRUCTIONS ON HOW TO FILL UP THE QUESTIONNAIRE

Accomplish the questionnaire according to the instructions.

PCSS Form 1A

Indicate the reference date the survey is conducted. For example October 1, 2008

Sheet No. ___ of ___ Sheets for this classification of household – Indicate the sheet number and the number of sheets used for a particular household classification on the upper right portion of the questionnaire.

Province- Print the name of the province in the space provided.

Municipality – Print the name of the municipality in the space provided.

Barangay – Indicate the name of the barangay in the space provided.

Household Classification – Check the box of the appropriate classification of the household whether farming or non-farming.

A. Quantity of palay/rice in the house as of 6:00 AM

Indicate the reference month/year in the spaces provided for. The reference month is the first day of the month of the current year.

Column 1 - Line Number (LN) – is for control purposes only.

Column 2 - Name of Household Head –Write legibly the name of the sample household heads which are provided in the printout list of PCSS I samples.

Column 3 - Name of Respondent – Write the name of person interviewed if the household head was not around during the time of visit.

Column 4 - Relationship to Household Head – Enter the code of the relationship of the person interviewed to the household head.

A.1 Palay, In Local Unit

Column 5 - Unit Used: Indicate the name local unit used in measuring palay stock e.g. sack, cavan.

Column 6 - Number of Units: Enter the volume of palay stocks of the sample household as of the reference date in local units reported in Col. 5

Column 7 - Weight (in kg) of One Unit: Report the equivalent weight in kilograms of one local used and record in two (2) decimal places.

Column 8 - For Office Use Only – To be accomplished during the editing and summarization process. Multiply Col. 6 by Col. 7.

A.2 Rice, In Local Unit

Column 9 - Unit Used: Indicate the name local unit used in measuring rice stock e.g. sack cavan.

Column 10 -Number of Units: Enter the volume of rice stocks of the sample HH as of the reference date in local unit reported in Col. 9.

Column 11 - Weight (in kg) of One Unit: Report the equivalent weight in kilograms of one local unit used and record in 2 decimal places.

Column 12 - For Office Use Only: To be accomplished during the editing and summarization process. Multiply Col. j by Col. k.

B. Quantity of Shelled Corn/Corn Grits in the House as of 6:00AM

Column 1 - Line Number (LN): For control purposes only.

Column 2 - Name of Household Head: Write legibly the names of the household head as provided in the printout of list of PCS 1 samples.

B.1 Corn Grain, Yellow in Local Unit

Column 3 - Unit Used: Indicate the local unit used in measuring yellow corn grain stock e.g. sack, cavan.

Column 4 - Number of Units: Enter the volume of yellow corn grain stocks in local unit reported in Col. 3.

Column 5 - Weight (in kg) of One Unit: Report the equivalent weight in kilograms of one local unit used and record in 2 decimal places.

Column 6 - Office Use Only: To be accomplished during the editing and summarization process. Multiply Col. 4 by Col. 5.

B.2 Corn Grain, White in Local Unit

Column 7 - Unit Used: Indicate the local unit used in measuring the white corn grain stock , e.g. sack, cavan.

Column 8 - Number of Units: Enter the volume of white corn grain stocks in local unit reported in Col. 7.

Column 9 - Weight (in kg) of One Unit: Report the equivalent weight in kilograms of one local unit used and record in 2 decimal places.

Column 10 - Office Use Only: To be accomplished during the editing and summarization process. Multiply Col. 8 by Col. 9.

B.3 Corn Grits, Yellow in Local Unit

Column 11 - Unit Used: Indicate the local unit used in measuring yellow corn grits stock, e.g. sack, cavan.

Column 12 - Number of Units: Enter the volume of yellow corn grits in local unit reported in Col. 11.

Column 13 - Weight (in kg) of One Unit: Report the equivalent weight in kilograms of one local unit used and record in 2 decimal places.

Column 14 - Office Use Only: To be accomplished during the editing and summarization process. Multiply Col. 12 by Col. 13.

B.4 Corn Grits, White in Local Unit

Column 15 - Unit used: Indicate the local unit used in measuring white corn grits stock, e.g. sack, cavan.

Column 16 - Number of Units: Enter the volume of white corn grits in local unit reported in Col. 15.

Column 17 - Weight (in kg) of One Unit: Report the equivalent weight in kilograms of one local unit used and record in 2 decimal places.

Column 18 - Office Use Only: To be accomplished during the editing and summarization process. Multiply Col. 16 by Col. 17.

Line 11 - Barangay total for this household classification divide by 50.

IX. INSTRUCTIONS ON HOW TO FILL UP THE PROVINCIAL SUMMARY SHEET

Sheet No. ___ of ___ sheet of this household classification – Enter the sequence and number of sheets accomplished for a particular household classification. For example: if 5 sheets of this form are used sheets should be numbered as follows:

Sheet No. 1 of 5 sheets

Sheet No. 2 of 5 sheets

and so on....

Survey as of: Indicate the reference month/date/year of the survey on the spaces provided for.

Province - Print the name of the province on the space provided.

Classification of Household – Check the appropriate box for the household classification whether farming of non-farming.

Type of Data - Check the appropriate box for the type of data reported whether raw data and/or expanded data.

Column 2 - Stratum Code- Indicate in ascending order the stratum number as of the sample barangay.

Column 3 - Sample barangay/municipality- Print the name of each sample barangay and municipality by stratum.

Column 4 - Number of Samples- Indicate the number of samples in each sample barangay by stratum.

Column 5 - Palay - Enter the results of the palay stocks by household classification, by barangay and by stratum. Data can be obtained from Col. 8, line 11, page 1 of PCSS Form IA.

Column 6 - Rice - Enter the results of rice stocks by household classification, by barangay and by stratum. Data can be obtained from Col. 12, line 11, page 1 of PCSS Form IA.

Column 7 - Corn Grain, Yellow – Enter the yellow corn grain stock by household classification, by barangay and by stratum. Data can be obtained from Col. 6 line 11, page 2 of PCSS Form 1A.

Column 8 - Corn Grain, White- Enter the white corn grain stock of by household classification, by barangay, and by stratum. Data can be obtained from Col. 10, line 11, page 2 of PCSS Form 1A.

Column 9 - Corn Grits, Yellow- Enter the yellow corn grits stock by household classification, by barangay and by stratum. Data can be obtained from Col. 14, line 11, page 2 of PCSS Form 1A.

Column 10 -Corn Grits, White- Enter the white corn grits stock by household classification, by barangay and by stratum. Data can be obtained from Col. 18, line 11, page 2 of PCSS Form 1A.

Upon completion of entries for each sample barangay, add and write the sum under each item column.

Compute the expanded data following the estimation procedure in page 4.

Write the name of the editor, his designation and the date of summarization at the bottom of the summary sheet.

X. INSTRUCTIONS ON HOW TO FILL UP TABLES 1-3

Table 1. Expanded data in 50 kg. sack

Column 1 - Enter the household type, row 1 for farming household, row 2 for non-farming and the last row for the total of the reported stock.

Column 2 - Enter the palay expanded data for farming and non-farming household. Data can be obtained from col. 5 Provincial Summary Sheet (PSS).

Column 3 - Enter the rice expanded data for both household type. Data can be obtained from col. 6 of the PSS.

Column 4 - Compute for the total rice equivalent of the reported palay stock (col.2) for both household type by multiplying palay stock by 65% add to col. 3 then record the reported rice stock.

Column 5 - Enter the yellow corn grain stock of both household type. Data can be obtained from col. 7 of the PSS.

Column 6 - Enter the yellow corn grits stock of both household type. Data can be obtained from col. 9 of the PSS.

Column 7 - Compute for the total yellow corn grain equivalent by dividing the reported yellow corn grits (col. 6) by 68% add to col. 5 and then record the reported yellow corn grain stock.

Column 8 - Enter the white corn grain stock of both household type. Data can be obtained from col. 8 of the PSS.

Column 9 - Enter the white corn grits stock of both household type. Data can be obtained from col. 10 of the PSS.

Column 10 - Compute for the total white corn grain equivalent by dividing the reported white corn grits (col. 9) by 68% add to col. 8 then record the reported white corn grain stock.

Table 2 – Provincial estimate in metric ton.

Col. 1 - Item - Write the name of the province.

Col. 2 - Rice - Write the total rice equivalent, data can be obtained from col. 4 of table 1.

Col. 3 - Write the total yellow corn grain equivalent. Data can be obtained from col. 7 of table 1.

Col. 4 - Write the total white corn grain equivalent. Data can be obtained from col. 10 of table 1.

Col. 5 - Get the total corn grain (yellow and white) by simply adding col. 3 and col. 4.

Table 3 – Comparative table with reasons for increase/decrease.

Col. 1 - Item - Write rice and corn grain

Col. 2 - Write the reference month. Under this column write the reported total rice. Data can be obtained from col. 2 table 2.

Col. 3 - Refers to previous month. Write the reported rice and corn stock of the previous month.

Col. 4 - Refers to same month last year. Write the reported rice and corn stock of the same month last year.

Col. 5 - Compute for the percent change of reported stock for both rice and corn by dividing the present stock by the reported stock for the previous month.

Col. 6 - Reasons for increase/decrease. Write the reasons for increase/decrease in the reported rice and corn stock for the reference month compared to last month.

Col. 7 - Compute for the percent change of the reported stock for both rice and corn by dividing the present stock by the reported stock for the same month last year.

Col. 8 - Reasons for increase/decrease. Write reasons for increase/decrease in the reported rice and corn stock of the present month from the reported stock of the same month last year.

XI. DEFINITION OF TERMS

The following definitions are adopted in the cereals statistical activities.

1. **Farm.** Parcel or parcels of land which has a total area of at least 1,000 square meters (one-tenth of a hectare) used for agricultural purposes.

2. **Household.** A person or group of persons who sleep under the same dwelling unit and usually have a common arrangement in the preparation and consumption of food. The household members may not necessarily be related by ties

of kinship, although they are usually relatives. In some instances, more than one household may occupy the same dwelling unit.

3. **Farming household.** Any household in which a member operates an agricultural land, either solely or jointly with other members, and the aggregate area operated by the operator-members of such household qualifies to be called a farm.

4. **Non-farming household.** Any household in which a member operates an agricultural land, either solely or jointly with other members, but the aggregate area operated by the operator-members of such household does not qualify as a farm.

5. **Stock.** Supply stored for future use.

6. **Palay.** Local term for unhulled rice; also known as paddy or rough rice; scientifically called *Oryza sativa Linn.*

7. **Ears of matured corn.** Corn in the cob that are harvested as they reach full maturity or at hard dough stage.

8. **Ears of green corn.** Young corn in the cob that are harvested on or before they reach full maturity. They are either at soft or hard dough stage (for boiling or broiling).

9. **Shelled corn.** Corn grains that have been removed from the cob.

10. **Corn Grits.** Milled corn grains where the outer covering and germs have been removed.