

# Philippines - Palay Production Survey 2009

**Bureau of Agricultural Statistics**

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## Overview

### Identification

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ID NUMBER  
PHL-BAS-PPS-2009-v2.0

### Version

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VERSION DESCRIPTION  
v2.0 Household level data edited at Central Office, not anonymized.

PRODUCTION DATE  
2009-08-15

NOTES  
v0- is the raw, unedited household level data

v1.0 -is the household level data edited at provincial level, not anonymized, for internal use

v2.0- is the household level data edited at Central Office, not anonymized, for internal use

### Overview

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ABSTRACT  
The Palay Production Survey is one of the two modules of the Palay and Corn Production Survey (PCPS), formerly known as the Rice and Corn Production Survey (RCPS).

The Palay Production Survey (PPS) 2009 was a quarterly survey conducted by the Bureau of Agricultural Statistics (BAS). It aimed to generate estimates on palay production, area and yield and other related information at the provincial level. It was conducted in four rounds, namely: January, April, July and October. Each round generated estimates for the immediate past quarter and forecasts for the next two quarters. Results of the survey served as inputs to planners and policy makers on matters concerning the rice industry.

KIND OF DATA  
Sample survey data [ssd]

UNITS OF ANALYSIS  
Farming households;

Palay areas operated by farming households

### Scope

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NOTES  
The scope of the Palay Production Survey includes:

- Production, area planted/harvested and yield by ecosystem and seed type
- Usage of seeds, fertilizer and pesticides
- Source of irrigation water and adequacy

- Monthly distribution of production and area harvested
- Farm household disposition of production
- Area with standing crop
- Planting intention for the quarter
- Awareness and availment of GMA Rice Program interventions

## Coverage

### GEOGRAPHIC COVERAGE

National

80 provinces in 16 Regions (National Capital Region not included)

### GEOGRAPHIC UNIT

Barangay

### UNIVERSE

Farming households in palay producing barangays.

## Producers and Sponsors

### PRIMARY INVESTIGATOR(S)

Name	Affiliation
Bureau of Agricultural Statistics	Department of Agriculture

### FUNDING

Name	Abbreviation	Role
Bureau of Agricultural Statistics	BAS	

### OTHER ACKNOWLEDGEMENTS

Name	Affiliation	Role
National Statistical Coordination Board		Survey clearance

## Metadata Production

### METADATA PRODUCED BY

Name	Abbreviation	Affiliation	Role
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### DATE OF METADATA PRODUCTION

2009-08-31

### DDI DOCUMENT VERSION

Version 1.0 (August 2009)

DDI DOCUMENT ID  
DDI-PHL-BAS-PPS-2009-v1.0

# Sampling

## Sampling Procedure

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The sampling procedure used in the Palay Production Survey 2009 (PPS 2009) was first implemented in 1994. This was a replicated two-stage stratified sampling design with province as the domain, barangay as the primary sampling unit (PSU) and farming household as the secondary sampling unit (SSU).

The results of the 1991 Census of Agriculture and Fisheries (CAF 1991) served as sampling frame at the PSU and SSU levels. In the said census, the largest barangay in a municipality was taken with certainty while a 50 percent sampling rate was used for selecting the remaining barangays in the municipality. This scheme effectively resulted in the generation of two sub universes: a sub universe of barangays with probability of selection equal to one (these barangays were called 'certainty barangays') and another sub universe of barangays with probability of selection equal to 0.5. This characteristic of the CAF 1991 data was used in the selection of sample barangays for the PPS.

The barangays were arrayed in ascending order based on palay area then stratified such that the aggregate palay area of the barangays belonging to one stratum is more or less equal to the aggregate palay area of the barangays in any other stratum. Ten strata were formed for major palay producing provinces and five for minor producing provinces. In all these provinces, the last stratum consisted of the certainty barangays per CAF 1991 design.

For each stratum, four (4) sample barangays were drawn independently using probability proportional to size (PPS) sampling with the barangay's palay area as size measure. This resulted with four (4) independent sets of barangays (i.e., four replicates) for the province. Systematic sampling was used in drawing the sample farming households in each sample barangay.

For economic reasons, sample size per barangay was limited to a minimum of four (4) and a maximum of twenty five (25). To correct for this limitation of the design, the use of household weights was instituted. A detailed discussion of weighting in the PPS is included in the survey's estimation procedure attached as a Technical Document.

In November 2007, an updating of the list of farming households in all palay sample barangays nationwide was done to address the problem of non response due to transfer of residence, stoppage of farm operation, passing away of operator etc. Consequently, a new set of sample households was drawn.

Absent respondents such as refusals, not at home, unknown and transferred to another barangay were treated as missing and were replaced at the Central Office for the next quarter's survey. The replacement samples were taken from the list of replacements (farming households) for the barangay and were reflected in the list of sample households for the next round.

## Response Rate

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Response rate refers to the ratio of sample households who responded to the survey to the total number of sample households, expressed as a percentage. For Palay Production Survey (PPS), responding samples include farming households who are into palay farming (code 10), those who are into other agricultural activities or with no agricultural activities during the reference period (code 20).

The PPS 2009 response rates were as follows:

April 2009 Round - 91.54%

July 2009 Round - 90.93%

October 2009 Round - 94.21%

January 2010 Round - 92.76%

## Weighting

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Sample weights were applied to all variables at the household-level. These were determined as a function of the uniform raising factor for the province, denoted by  $R_k$ , and the adjusted household weights.

Rk was initially computed from the following characteristics: average total area planted to corn per stratum, average total area planted to corn per barangay, average number of farming households per barangay, average number of sample farming households per barangay and average number of sample barangays per stratum.

Sample size for the sample barangay was determined based on the following information: Rk, total number of farm households in the sample barangay, total corn area of the sample barangay, aggregate corn area in the stratum and number of sample barangays in the stratum.

For operational purposes, sample size per barangay was limited to a minimum of four (4) and a maximum of 25. To correct for this limitation, the use of a uniform sample weight for all sample households in the same sample barangay was instituted. Household weights were determined as a function of the computed sample size and the 'desired' sample size for the barangay, that is:

- a) 1.00 if the computed sample size was between 4 and 25;
- b) less than 1.00 if computed sample size was less than 4
- c) more than 1.00 if computed sample size was more than 25, and
- d) based on computed sample size and number of farming households in the barangay if computed sample size was less than 25 and said sample size was greater than total number of farming households in the barangay.

Household weights were encoded together with other household level data. During table generation, weighting adjustment was done to correct for sampling unit non-response due to the following reasons:

- refusal of target respondent or any other knowledgeable household member to be interviewed
- sample barangay was not accessible during the survey period
- entire household was temporarily away during the survey operation-
- sample household has transferred residence to another barangay
- sample household's residence could not be located / unknown in the sample barangay

Weighting adjustment was done for each sample barangay, whenever applicable. This was calculated by multiplying the original household weight by the reciprocal of the response rate. Response rate is the ratio of the number of sample households who responded to the survey (either corn household and non-corn household) to the total number of sample households in the barangay. Calculation of the final weight was done afterwards, by multiplying the adjusted weight by the uniform raising factor Rk.

Details of the above discussion except for weighting adjustment procedures, are contained in the document describing the Palay Production Survey (PPS) sampling methodology provided attached as a Technical Document.

# Questionnaires

## Overview

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The Palay Production Survey 2009 was written in English. It was a structured questionnaire that can accommodate data for five sample households. It evolved from modifications of the 2007 questionnaire based on the emerging data needs of the Rice Program. The new questionnaire was implemented in the January 2008 Round with the following features: more detailed sample status categories, items on production and area by seed type, inclusion of items on application of organic fertilizer and pesticides usage, additional items on palay disposition and utilization and awareness and availment of Ginintuang Masaganang Ani (GMA) Rice Program benefits and services.

The questionnaire was divided into the following blocks:

Block A- Sample identification

Block B- Sample particulars

Block C- Information of paddy (palay) harvested

C1- Palay area, production and irrigation information

C2- Information on yield enhancing and protecting inputs

Block D- Palay disposition and utilization

Block E- Palay production forecast (on standing crop)

Block F- Palay planting intentions

Block G- Respondent's assessment of the household's Palay production

Block H- Farmer's participation in Ginintuang Masaganang Ani (GMA) Rice Program

Block I- Data collector, supervisor, PASO and encoder identification

A detailed description of these blocks are provided in Technical Documents.

## Data Collection

### Data Collection Dates

Start	End	Cycle
2009-04-01	2009-04-10	April 2009 Round
2009-07-01	2009-07-10	July 2009 Round
2009-10-01	2009-10-10	October 2009 Round
2009-12-01	2009-12-10	January 2010 Round

### Time Periods

Start	End	Cycle
2009-01-01		April 2009 Round (Final))
2009-04-01		April 2009 Round (Forecast based on standing crop)
2009-07-01		April 2009 Round (Forecast based on planting intention)
2009-04-01		July 2009 Round (Final)
2009-07-01		July 2009 Round (Forecast based on standing crop)
2009-10-01		July 2009 Round (Forecast based on planting intention)
2009-07-01		October 2009 Round (Final)
2009-10-01		October 2009 Round (Forecast based on standing crop)
2010-01-01		October 2009 Round (Forecast based on planting intention)
2009-10-01		January 2010 Round (Final)
2010-01-01		January 2010 Round (Forecast based on standing crop)
2010-04-01		January 2010 Round (Forecast on planting intention)

### Data Collection Mode

Face-to-face [f2f]

### Data Collection Notes

Contractual data collectors (CDCs) were hired to gather the data. Prior to data collection, training of the CDCs was conducted to ensure that the procedures and concepts were understood. Mock interviews and dry-run exercises were part of the training.

Prior to data collection in the sample barangays, a courtesy call was made to barangay officials by the CDCs to explain the nature and purpose of the survey and to seek permission for its conduct in their area. At the household level, the objectives of the survey were explained by the CDC as well as an assurance that the information collected were treated with utmost confidentiality. Average interview time per sample household ranged from 30 to 45 minutes.

The CDC used the local dialect in the interview in accordance with the procedures prescribed in the manual of instructions and as discussed during the training. Problems encountered by the CDCs were reported to their supervisors for appropriate action. Before submitting the accomplished questionnaires to the supervisor, these were first edited by the CDCs for completeness, consistency and acceptability of the entries.

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## Data Collectors

Name	Abbreviation	Affiliation
Bureau of Agricultural Statistics	BAS	Department of Agriculture

## Supervision

Field supervision was undertaken by the Provincial Operations Center (POC) staff in their respective municipalities of assignments. The Provincial Agricultural Statistics Officer (PASO) served as overall supervisor in the province, while the Regional Agricultural Statistics Officer (RASO) was the overall supervisor in the region. Central Office technical staff also made field visits in some provinces to observe the field operations.

Among the responsibilities of the supervisor were the conduct of CDC training prior to data collection, doing spotchecking and backchecking activities during and after data collection, editing of completed returns, addressing of problems encountered by the CDCs under him/her supervision and reporting to Central Office the significant findings that may contribute to the analysis of the survey results.

## Data Processing

### Data Editing

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Prior to data encoding, the accomplished survey returns were manually edited and coded. Manual editing was the checking of responses to the Palay Production Survey (PPS) questionnaire in terms of acceptability and validity. This activity was aimed at improving the quality of data collected by the CDCs. It involved the checking of data items based on criteria like completeness of data, consistency with other data items and data ranges. Coding was the assignment of alpha-numeric codes to questionnaire items to facilitate encoding.

Encoded data were subjected to computerized editing using a customized editing program. The editing program took into consideration the validation criteria such as validity, completeness and consistency with other data items. This activity was done to capture invalid entries that were overlooked during manual editing. An error listing was produced as output of the process. The errors reflected in said lists were verified vis-à-vis the questionnaires. The data files were updated based on the corrections made. Editing and updating were performed iteratively until a clean, error-free data file was generated.

Completeness check was done to compare the data file against a master file of barangays to check if the sample barangays have been completely surveyed or not. This activity was done after a clean, error-free data file was generated.

### Other Processing

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Data from the PPS were processed using a customized DOS-based program developed by the Information and Communications Technology Division (ICTD). Two computerized systems, the Palay Production System (PPS) for palay and the Corn Production System (CPS) for corn, were developed using the U.S. Bureau of Census' Integrated Microcomputer Processing System (IMPS) and Cobol.

Decentralized processing was applied for the PPS. At the POC, processing activities include encoding of data from survey questionnaires; computerized editing, completeness check, generation of expansion factor and generation of output tables.

The contents of the PPS questionnaire were inputted into the desktop computer using a data entry application program developed in IMPS. The data entry program was composed of eight record types where each record type represented a corresponding block of questionnaire. These record types were:

- RT 1- Sample Particulars
- RT 2- Area and Production
- RT 3- Fertilizer Information
- RT 4- Pesticides Information'
- RT 5- Production Disposition'
- RT 6- Production Forecast
- RT 7- Planting Intentions
- RT 8- Assessment of Rice Program

A program generating the appropriate household weights or correction factor was run using the clean data file. The generated household weights were then used in the estimation.

Output table generation was performed only after the activities of completeness check and generation of correction factor have been done. From the PPS system, 13 provincial output tables were generated. Soft copies of provincial data, specifically the clean data and the barangay master file, were submitted to the ICTD for national consolidation while hard copies of the provincial reports were submitted to the Crops Statistics Division (CSD).

# Data Appraisal

## Estimates of Sampling Error

Not computed.

## Other forms of Data Appraisal

To ensure the quality of its statistical services, the BAS has mainstreamed in its statistical system for generating production statistics, a quarterly data review and validation process. This is undertaken at the provincial, regional and national levels to incorporate the impact of events not captured in the survey.

The data review process starts at the data collection stage and continues up to the processing and tabulation of results. However, data examination is formalized during the provincial data review since it is at this stage where the data at the province-level is analyzed as a whole. The process involves analyzing the survey data in terms of completeness, consistency among variables, trend and concentration of the data and presence of extreme observations. Correction of spotted errors in the data is done afterwards. The output of the process is a clean data file used in the re-computation of survey estimates.

The estimates generated from the clean data set are thoroughly analyzed and validated with auxiliary information to incorporate the impact of information and events not captured by the survey. These information include results of the Monthly Palay and Corn Survey Report (MPCSR), historical data series, report on weather condition, area and crop condition, irrigation, levels of inputs usage, supply and demand, marketing of agricultural products, and information on rice and corn program implementation.