REPUBLIC OF THE PHILIPPINES
PHILIPPINE STATISTICS AUTHORITY

Crops Production Survey

Manual of Operations for Supervisors

April 2017

TABLE OF CONTENTS

1. INTRODUCTION

The Crops Statistics Division (CSD) of the Philippine Statistics Authority (PSA) generates production-related statistics on crops other than palay and corn through the Crops Production Survey (CrPS). This survey is conducted in 80 provinces and two chartered cities where the commodity coverage varies by province based on the availability in terms of planting and seasonality. Nineteen major crops under the Other Crops sub-sector are highlighted in the Performance of Philippine Agriculture Report (PAR).

There are specialized commodity agencies which also generate production-related statistics such as the Sugar Regulatory Administration (SRA), Philippine Coconut Authority (PCA), Philippine Fiber Industry Development Authority (PhilFIDA), and National Tobacco Administration (NTA). The PSA adopts the production data of SRA on canes milled for centrifugal sugar while those from PCA, PhilFIDA, and NTA serve as inputs in the review and validation of estimates.

After the collection and organization of statistics on Other Crops, these undergo a review and validation process before finally released and disseminated. The reports generated from the results of the survey are in the forms of bulletins and publication as follows:

- Bulletin (Quarterly)
  - Major Non-Food and Industrial Crops Quarterly Bulletin
  - Major Vegetables and Rootcrops Quarterly Bulletin
  - Major Fruitcrops Quarterly Bulletin

- Publication (Annual)
  - Crops Statistics of the Philippines

The supervisors play a significant role on the success of the survey since they are responsible on the performance of the statistical researchers and personnel in their respective areas of assignment. It is essential that the supervisor adhere to prescribed procedures and duties stated in this manual.

This manual aims to provide the supervisors information about the survey, their role as supervisors and guide them to solve problems encountered during field operations. This will guarantee effective implementation of the survey that will ensure the generation of timely and quality data for other crops- non-food and industrial crops, fruitcrops, vegetables, and rootcrops.

2. THE CROPS PRODUCTION SURVEY (CrPS)

The Crops Production Survey aims to generate basic production statistics for crops other than palay and corn at the national and sub-national levels. The purpose of the survey is to support the needs of planners, policy and decision makers, and other stakeholders in the agriculture sector and to provide periodic updates on crop related developments. The survey mainly captures the data on volume of production, area planted/ harvested and number of bearing trees/hills/vines.

The CrPs covers more than 280 crops sub-classified under three commodity groupings, namely: 1) Non-Food and Industrial Crops, 2) Fruit Crops, and 3) Vegetables and Rootcrops. The commodity coverage by province differs and depends on what each province produces.

3. SURVEY METHODOLOGY

3.1 Survey Design

The domain of the survey is the province. The selection of sample farms in the province are done by categorizing small and large farms, according to the area planted to a specific crop. The existing cut-off for planted area among large farms are as follows:

Crop	Luzon	Visayas	Mindanao
	(in hectares)		
Coconut	> 10	>50	>50
Sugarcane	>20	>5	>20
Banana	>10	>10	>100
Pineapple	>5	>5	>100
Coffee	>5	>5	>20
Mango	>5	>5	>10
Rubber	-	-	>15
Abaca	>9	>9	>9
Cacao	>5	>5	>20
Other crops	>5	>5	>10

For large farms, a maximum of five farms shall be chosen for the whole province.

For small farms, a two-stage sampling design is employed. The primary sampling units (PSUs) are the producing municipalities of the specific crop and the secondary sampling units (SSUs) are the farmer-producers in the top five producing municipalities. The identification of top producing municipalities is done by the PSO/field staff through the Key Informant (KI) Approach where a

knowledgeable person is asked on agricultural information and other related data. A sample farmer/producer should have a production of the specific crop during the reference quarter and same period last year.

For small farms of crops covered under the Farm Price Survey and selected crops, the top five producing municipalities per commodity in a province are selected to represent the primary sampling units. Five farmer-producers shall be interviewed in each selected municipality which shall represent the secondary sampling units.

For small farms of all other crops not covered under the FPS, only the top two to three producing municipalities are chosen as the primary sampling units. Three farmer-producers in each municipality are enumerated as secondary sampling units.

The foregoing scheme is implemented for each crop being covered. Under this scheme, a farmer-producer should have production of the specific crop during the reference quarter and same period last year.

3.2 Estimation Procedure

Information from farmer/producer basically consist of the actual volume of production, area and number of bearing trees during the reference quarter. The percent change for each data item is computed independently for the small farms and large farms, followed by the corresponding weight for each farm type. The area planted/harvested is used by the concerned PSO/field staff to determine the weights by farm type.

The following are the conceptual definitions of the information gathered from CrPS:

Crop Production – the quantity produced and actually harvested for a particular crop during the reference period. It includes those harvested but damaged, stolen, given away, consumed, given as harvesters' share, reserved, etc. Excluded are those produced but not harvested due to low price, lack of demand and force majeure or fortuitous events.

Area Planted – the actual physical area planted, in hectares. This generally applies to area reported for permanent crops and multi-harvest temporary crops.

Area Harvested – the actual area from which harvests are realized, in hectares. This excludes crop area which were totally damaged. It may be smaller than the area planted. In crops statistics, this applies to mono-harvest temporary crops

Bearing Trees/Hills/Vines – these refer to the number of trees/hills/vines where harvesting has been made in the past but may or may not have borne fruit or productive during the reference period due to cyclical production pattern of the crop. Hills apply to banana and abaca. Vines apply to grapes and the like

The total of the actual levels of the data items is first computed, as given by the respondents, for each period (current and same period of the previous year), separately, for small farms and large farms. The percent change is then computed. Using production as a sample indicator, percent change is computed using the following formula:

$$\%\ \boldsymbol{change} = \frac{\sum_{i=1}^{n} \boldsymbol{Pc_i} - \sum_{i=1}^{n} \boldsymbol{Pp_i}}{\sum_{i=1}^{n} \boldsymbol{Pp_i}} \times \mathbf{100}$$

where:

Pc_i - production of the i^{th} sample farmer during the current period

Pp_i - production of the i^{th} sample farmer during the same period of the previous year

n - number of sample farmers

The resulting percent change of each type of farm shall be given the corresponding weights, as determined by the PSO. Each type of farm has a corresponding weight which is determined as follows.

For large farms, the weight is computed as:

$$\boldsymbol{w_l} = \frac{\boldsymbol{A_l}}{\boldsymbol{A_t}}$$

where:

A_l - total area planted to all large farms for each crop in the particular province

A_t - total area planted to the province

For small farms, the weight is computed as:

$$\boldsymbol{w_s} = \frac{\boldsymbol{A_s}}{\boldsymbol{A_t}}$$

where:

A_s - total area planted to all small farms for each crop in the particular province

A_t - total area planted to the province

The overall percent change for the province for each crop is computed as the sum of the weighted percent change for each type of farm, that is:

$$\boldsymbol{overall}\ \%\ \boldsymbol{change} = ([\%\boldsymbol{change_s} \times \boldsymbol{w_s}]\ +\ [\%\boldsymbol{change_l} \times \boldsymbol{w_l}])$$

where:

$\%\ change_s$ - percent change for the small farm samples

$\%\ change_l$ - percent change for the large farm samples

The overall percent change is applied to the final estimates of the same period last year to get the estimate of the current period. The current estimates on production, area and number of bearing trees for the province are derived using the following formula:

$$\boldsymbol{E_c = E_p \times \left(1 + \left[\frac{overall\ \%\ change}{100}\right]\right)}$$

where:

E_p - final estimate for the same period of the previous year (base data)

Estimates of total production/area/number of bearing trees for the region are obtained by aggregating the estimated total production/area/number of bearing trees of the provinces within the region. Estimates at the national level are the sum of the estimates of the regions.

4. FIELD OPERATIONS PROCEDURES

4.1 Role of the Supervisors

Supervisors in the CrPS will ensure that the activities during the pre-survey, training, data collection, processing, review and validation and submission of reports are undertaken.

1. Identify or update the top producing municipalities for each crop.

2. Facilitate the reproduction of the collection form.

3. Conduct orientation/briefing for statistical researchers.

4. Determine the respective assignments of the Statistical researchers (SRs) under his/her supervision.

5. Conduct spot-checking of the data gathering performance of the SRs under his/her supervision during data collection.

6. Supervise and monitor the progress of SRs works.

7. Ascertain the complete and accurate information in CrPS Form 1 (see Appendix F) where five farmer/producers for each top producing municipality are listed and in CrPS Form 2 (see Appendix G) where five sample top producing municipalities listed in Form 4a are reflected.

8. Address problems and issues reported by the SRs during the data collection.

9. Perform the editing of the accomplished forms submitted by the SRs.

10. Carry out the data processing and prepare the output tables and reports for the Provincial Data Review.

11. Submit the required reports to the Regional Statistical Service Office and Crops Statistics Division.

4.2 Data Collection

The field data collection for CrPS is conducted during the last 10 days of the second month of the quarter. The CrPS is undertaken simultaneously with the Farm Price Survey (FPS) during its survey month. Table 1 shows the reference periods of the CrPS every round, with the corresponding data items required during data collection.

Table 1. Reference period and required data items by survey month

Survey Round	Data Items		
	Production	Area Planted/Harvested[1/]	Number of Bearing Trees/Hills/Vines
	Reference Period		
February Round	Jan-Mar		
May Round	Apr-June	Jan-June	Jan-June
	Jan-June		
August Round	July-Sep		
November Round	Oct-Dec	July-Dec	July-Dec
	July-Dec	Jan-Dec	Jan-Dec
	Jan-Dec		

[1/] area harvested for temporary crops; area planted for permanent crops

There are two forms used in the data collection. These are the farmer/producer Collection Form (CrPS Form 1) and Provincial Summary Form (CrPS Form 2). CrPS Form 1 (Appendix F) has five major columns sub-divided into eight sub-columns, to correspond to the information needed, which are: name of the crop and farmers/producers, volume of production, area planted/harvested, number of bearing trees/hills/vines, and reasons for change. The form can accommodate five crops. The CrPS Form 2 (Appendix G) also has five major columns divided into eight sub-columns to correspond to the information needed, which are: crop/name of municipality, volume of production, area, number of bearing trees/hills/vines, and reasons for change. Like CrPS Form 1, this form can accommodate five crops.

On the other hand, the Provincial Summary Form covers the crops by sub-commodity groups. The entries in the first column have the names of the sample municipalities, instead of the names of the sample respondents.

The detailed instructions in data collection and filling-out of the questionnaire are discussed in the Manual of Operations for Statistical Researchers.

Prior to data collection, three levels of training are conducted to ensure the quality of data collected. The first level is the operational briefing which aims to train the selected representatives from the Regional Statistical Services Offices (RSSOs) and Provincial Statistical Offices (POs) to be pool of trainers who will be responsible in cascading the operational briefing in their respective areas. The briefing will be cascaded to the Provincial Statistical Officers (PSOs) and/or crops focal persons at the POs then to the supervisors and statistical researchers at the POs. The first and second levels of training are done annually while the third level is done quarterly.

4.3 Data Processing

In CrPS, there is no processing system developed to process the edited survey returns. Instead, the survey utilizes the two crops compiling systems, an MS Excel-based templates that utilizes the links and protection commands. The system electronically consolidates the different data sets from the provinces to the region up to the national level. An identical and independent system is provided for each of the sub commodity groups that are classified further into major and other crops. Separate discussions of the two compiling systems are found in Section 5.3 of this manual.

5. DATA REVIEW AND VALIDATION

The PSA has mainstreamed a quarterly data review and validation process to ensure the quality of its statistical products. This is conducted in three levels - the Provincial Data Review (PDR), Regional Data Review (RDR), and National Data Review (NDR).

The first level, PDR is done at the province and is attended by the provincial staff. The Provincial Statistics Officer (PSO) is responsible for the conduct of the PDR, assisted by the focal person for the sub-sector. The RDR is presided by the Regional Director (RD) and/or Statistical Operations and Coordination Division (SOCD) Chief and attended by all the PSOs in the region. The NDR is held at the Central Office (CO) with participation of the technical staff, RSSO representatives and management. At this level, one-on-one consultations between the sector/commodity specialists and the RSSO representatives are done to clear issues, if any, after which regional estimates are finalized and consolidation to come up with the national estimates. Both the regional and the national estimates are then presented to the management for final approval.

Table 2. Data review and validation schedules

Three Levels of Data Review	Schedule
Provincial Data Review (PDR)	Last month of the reference quarter
Regional Data Review (RDR)	Third week of the first month after the reference quarter
National Data Review (NDR)	Last week of the first month after the reference quarter

Note:
All the data review and validation levels focus on the different aspects of the data items on production, area, bearing trees, bearing trees per hectare and kilograms per hectare or bearing trees.

At the provincial level, the reviewers shall focus on the level that reflects the situation in the province. At the regional level, the focus is on the comparison between and among provinces in the region. At the Central Office, the national level data shall be in comparison between and among the regions and with related national data/information. The regional and national level data shall clearly reflect the relative contribution of its components by crop which vary by reporting period and the annual result.

5.1 Data Review

Data review is concerned with the internal checks of the result of the survey data. Its main purpose is to ensure that the data set are properly gathered, encoded and processed. It should be done in the provincial level since it is the first stage where formal data analysis starts.

The data review technically starts during the data collection upon interview. Initially, the replies of the respondents on the data items required for collection will be subjected to scrutiny. This will be followed by another review on the recorded responses while the interviewer is still at the sample area. The review of data includes the following:

- Check on the completeness of the entries and response items. Conduct probing when necessary to obtain the responses for the required items. Some of these items may not be directly supplied by the respondents due to misunderstanding of the questions or it may take time to recall.

- While the interviewer is still with the respondent, roughly compute for the yield (production in kilograms/number of bearing trees or hectares) and the number of bearing trees per hectare. The statistical researcher must have an idea on the acceptable range during the period. A result outside the range shall be verified. The out of range figure may not necessarily be wrong but may be a new level for which only the respondents could explain. This requires an explanation or remarks from the respondent.
- During the interview, ask the respondent about the weather condition during the previous quarter up to the current quarter. The effect of weather on production/yield varies among crops.

For each crop, the estimation for each data item requires the final data of the same period last year.

To enhance the data review, the following should be observed during data collection:

Case 1: Non-Response Items

Where applicable, all items in the form shall have response or entries. Otherwise, the generated results are outside the realistic and acceptable range. In a sample form shown in Table 3, the missing items due to non-response are indicated by a question mark (?). Check also the appropriateness of the reason to the specific crop and data sets.

Table 3. Banana Saba: Volume of production, Area Planted/Harvested and Number of Bearing Hills, October-December, 2014- 2015

CrPS Form 1
Farmer/Producer Collection Form

Legal Authority: Republic Act 10625 known as the Statistical Act of 2013
Confidentiality: Section 26 of RA 10625 and Article 55 of the Implementing Rules and Regulation of RA 10625 states that all data furnished by a respondent to statistical inquiries, surveys and censuses of the PSA shall be considered privileged communication and as such shall be inadmissible as evidence in any proceeding. The PSA may release aggregated information from statistical inquiries, surveys and censuses in the form of summaries or statistical tables in which no reference to an individual, corporation, association, partnership, institution

Approval No.: _____
Expires on: _____

Republic of the Philippines
PHILIPPINE STATISTICS AUTHORITY
Quezon City

CROPS PRODUCTION SURVEY
October to December 2015
Reference Period

Province: Davao del Sur
Municipality: Digos

Page ____ of __

CROP/ NAME OF FARMER/PRODUCER	VOLUME OF PRODUCTION in kilograms		AREA PLANTED/HARVESTED[1/] in hectares		NO. OF BEARING TREES/HILLS/VINES		Reasons for Change
	Last Year	This Year	Last Year	This Year	Last Year	This Year	
(1)	(2)	(3)	(4)	(5)	(8)	(9)	(10)
CROP: Banana Saba							
1 Noel Penaranda	675	540	0.60	0.60	120	100	Effect of Typhoon "Frank"
2 Warlito Doronela	560	345	0.40	0.40	80	80	Too much rain
3 Benjamin Galang	780	?	0.75	0.75	165	165	?
4 Nestor Gracias	760	?	1.00	1.00	220	220	?
5 Victor Ibañez	590	455	?	0.50	110	110	?
TOTAL	3365	1340	2.75	3.25	695	675	?

Case 2: Outlier Yield (production/number of bearing trees/hills)

At the end of the interview, verify with the respondent if the derived yield is too high or too low based on the yield range for the period. The statistical researcher should be familiar with the yield range in a particular reference period, by crop. These are found in the compiling systems. Note in the example shown in Table 4 that the computed yield of 0.50 kilograms per bearing hill of sample no. 4 is an outlier.

Table 4. Banana Saba: Volume of production, Area Planted/Harvested and Number of Bearing Hills, October-December, 2014- 2015

CrPS Form 1

Farmer/Producer Collection Form

Legal Authority: Republic Act 10625 known as the Statistical Act of 2013
Confidentiality: Section 26 of RA 10625 and Article 55 of the Implementing Rules and Regulation of RA 10625 states that all data furnished by a respondent to statistical inquiries, surveys and censuses of the PSA shall be considered privileged communication and as such shall be inadmissible as evidence in any proceeding. The PSA may release aggregated information from statistical inquiries, surveys and censuses in the form of summaries or statistical tables in which no reference to an individual, corporation, association, partnership, institution

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Republic of the Philippines
PHILIPPINE STATISTICS AUTHORITY
Quezon City

CROPS PRODUCTION SURVEY
October to December 2015
Reference Period

Province: Davao del Sur
Municipality: Santa Cruz

Page ____ of _

CROP/ NAME OF FARMER/PRODUCER		VOLUME OF PRODUCTION in kilograms		AREA PLANTED/HARVESTED[1/] in hectares		NO. OF BEARING TREES/HILLS/VINES		Yield per Bearing Hills	Reasons for Change
		Last Year	This Year	Last Year	This Year	Last Year	This Year		
(1)		(2)	(3)	(4)	(5)	(8)	(9)		(10)
CROP: Banana Saba									
1	Ador Gonzales	150	300	0.50	0.50	100	100	***3.00***	Increase due to no typhoon
2	Edgar Alanea	200	500	1.00	1.00	200	200	***2.50***	
3	Violy Arandela	120	200	0.75	0.75	120	120	***1.67***	
4	Ricardo Moreno	300	50	0.50	0.50	100	100	***0.50***	
5	Berto Bernal	200	230	0.50	0.50	100	100	***2.30***	
TOTAL		970	1230	3.25	3.25	620	620		

Case 3: Outlier Bearing Trees/Hills per Hectare

At the end of the interview, verify with the respondent if the derived bearing trees/hills per hectare is out of range (similar procedure with yield). Check if the trees were planted against the number of growing age up to its productive age. The statistical researcher should be familiar with the range of growing years, by crop. Note that in the example illustrated in Table 5, the computed 160 bearing hills per hectare of sample no. 5 is an outlier. In this case, the SR should ask the respondent of the reason/s for having a smaller bearing hills per hectare.

Table 5. Banana Saba: Volume of production, Area Planted/Harvested and Number of Bearing Hills, October-December, 2015-2016

CrPS Form 1

Farmer/Producer Collection Form

Legal Authority: Republic Act 10625 known as the Statistical Act of 2013
Confidentiality: Section 26 of RA 10625 and Article 55 of the Implementing Rules and Regulation of RA 10625 states that all data furnished by a respondent to statistical inquiries, surveys and censuses of the PSA shall be considered privileged communication and as such shall be inadmissible as evidence in any proceeding. The PSA may release aggregated information from statistical inquiries, surveys and censuses in the form of summaries or statistical tables in which no reference to an individual, corporation, association, partnership, institution

Approval No.: _____
Expires on: _____

Republic of the Philippines
PHILIPPINE STATISTICS AUTHORITY
Quezon City

CROPS PRODUCTION SURVEY
October to December 2016
Reference Period

Province: North Cotabato
Municipality: Bagua

Page ____ of ____

CROP/ NAME OF FARMER/PRODUCER	VOLUME OF PRODUCTION in kilograms		AREA PLANTED/HARVESTED[1/] in hectares		NO. OF BEARING TREES/HILLS/VINES		Bearing Hills per hectare
	Last Year	This Year	Last Year	This Year	Last Year	This Year	
(1)	(2)	(3)	(4)	(5)	(8)	(9)	
CROP: Banana Saba							
1 Gerry Bucad	40	20	1.00	1.00	200	1000	***1000***
2 Liwayway Nagutom	135	85	1.00	1.00	200	420	***420***
3 Fernando Paterno	340	250	2.00	2.00	400	800	***400***
4 Letecia Enriquez	270	220	1.00	1.00	200	350	***350***
5 Larry Sales	110	60	0.50	0.50	80	80	***160***
TOTAL	895	635	5.50	5.50	1,080	2,650	

Case 4: Incomplete Entries

Before proceeding with the data validation, the corresponding worksheets shall be checked for completeness. A sample worksheet in Table 6 shows separate columns for Year 2 preliminary and final estimates (Year 2P for preliminary and Year 2F for final). Crops with preliminary estimates shall have final estimates. The final estimates may be the same, lower or higher than the preliminary. A drop in the final estimate with preliminary data is possible if there were calamities and shall include an explanation under the remarks column.

Table 6. Volume of production, major vegetables, January-March

Crop	Production (MT)			% Change	Reason for Change
	Year 1	Year 2P	Year 2F		
Mongo	1.19	1.06	1.06	(10.92)	Prolonged rains
Peanut	46.20	38.75	38.75	(16.13)	Heavy rains
Cabbage	-	-	-	-	
Eggplant	345.50	305.44	305.45	(11.59)	Too much rain
Tomato	28.25	25.39	25.39	(10.12)	Prolonged rainfall
Camote	762.00	714.00	*?*	-	Lodging
Cassava	4,084.00	3,864.00	*?*	-	Frequent rains

Outputs. The outputs of the data review are the accomplished data review and validation presentation tables and worksheets in the two compiling systems for each of the sub-commodity groups.

Tables 7 and 8 show examples of the results of the PDR in the Crops Compiling System. Table 8 will be submitted in advance to the RSSO and CSD. With the numerous other crops to be reviewed during the RDR proper, a pre-RDR is done among RSSO staff to be led by the SOCD Chief after the submission of provincial reports to allow sufficient time to review the data and identify the questionable estimates. The issues shall be either referred to the concerned Provincial Statistical Office before the RDR proper, or to be settled during the RDR.

Table 7. Volume of production, Non-Food and Industrial Crops, January-March

Crop	Year 1	Year 2	Year 3P				% Change	Reasons for change
			CrPS	PDR	RDR	NDR	col.3/2	
(1)		(2)	(3)	(4)	(5)	(6)	(7)	(8)
Sugarcane (cane) for:	1,173,359	2,718,527	1,448,536	1,448,536	-	-	(46.72)	Less fertilizer usage/movement of harvest
Centrifugal sugar	1,166,268	2,705,770	1,441,000	1,441,000	-	-	(46.74)	Less fertilizer usage/movement of harvest
Panocha/Muscovado	7,069	12,741	7,519	7,519	-	-	(40.99)	Movement of harvest
Chewing	22	17	17	17	-	-	3.27	Bigger canes harvested
Basi/Vinegar		-	-	-	-	-	-	-

Table 8. Volume of production, Non-Food and Industrial Crops, January-March

Crop	Production (MT)			% Change	Reasons for change
	Year 1	Year 2	Year 3P	col.3/2	
(1)	(2)	(3)	(4)	(5)	(6)
Sugarcane (cane) for:	1,173,359	2,718,527	1,448,536	(46.72)	Less fertilizer usage/movement of harvest
Centrifugal sugar	1,166,268	2,705,770	1,441,000	(46.74)	Less fertilizer usage/movement of harvest
Panocha/Muscovado	7,069	12,741	7,519	(40.99)	Movement of harvest
Chewing	22	17	17	3.27	Bigger canes harvested
Basi/Vinegar	-	-	-	-	-

5.2 Data Validation

Data validation is the process of assessing the acceptability of the data. It involves different types of analyses with the goal of arriving at the decision whether to accept the data or not. It is done with the main objective of releasing official data which accurately captures the actual situation in the province.

Inputs. A number of auxiliary information shall be used to validate the estimates that will reflect the agricultural situation in the province and will assure that the estimates are within the acceptable levels. The personnel involved in validation shall be equipped with available information as data check points. Some of these reference information are production-related statistics from other agencies, foreign trade, prices, consumption, weather condition, government and private program policies, trading and processing patterns, parameters of selected fruitcrops and non-food and industrial crops, fruiting season, and harvesting calendar. Tables 9 to 16 shows the details of these auxiliary information.

Table 9. List of auxiliary information used as data checks and possible sources

Information	Source
1. Production related statistics: No. of bearing trees, area, production, yield, updated cropping calendar	Agri-Businessmen
	Bureau of Plant Industry (BPI)
	Cooperatives
	Institute of Plant Breeding (IPB)
	Local Government Units (LGUs)
	National Tobacco Administration (NTA)
	Non-Government Organizations (NGOs)
	Philippine Coconut Authority (PCA)
	Philippine Fiber Industry Development Authority (PhilFIDA)
	Philippine Seed Board
	Philippine Statistics Authority (PSA)
	Private Growers
	Sugar Regulatory Administration (SRA)
	Bangko Sentral ng Pilipinas
2. Foreign trade statistics	BPI
	PSA
3. Prices on: a. fertilizer, pesticides; b. farm gate, wholesale, retail	Agricultural Traders
	Plantation Farms
	PSA
4. All relevant data from: a. large growers; b. fruit crops associations, cooperatives	Agri-Businessmen
	NGOs,
	Private Growers
5. Per capita consumption; industrial consumption	Food and Nutrition Research Institute
	Industry Associations
	LGUs
	PSA
6. Weather conditions and damage report due to natural and man-made calamities	Deparment of Agriculture (DA)
	Farmers
	LGUs
	Philippine Atmospheric, Geophysical and Astronomical Services Administration (PAGASA)
	PSA
7. Government and private programs and policies implemented, affecting crop production (i.e. seed dispersal program, subsidies)	DA
	LGUs
	NGO
8. Trading and processing patterns of selected commodities	PSA (trading matrix of selected fruits)

Table 10. Parameters of selected Non-Food and Industrial Crops

Crop	Yield	Bearing Trees, Hills/ha
Abaca	450-1,900 kg./ha	625-1,100 hills/ha
Coconut	5-60 nuts/tree	100-160 trees/ha
Coffee		
Arabica	500-1000 kg of green beans/ha	950-1,400 trees/ha
	1.85-3.70 kg of dried berries/tree	
	0.92-1.85 kg of dry beans/tree	
	0.50-1.00 kg.of green beans/tree	
Excelsa	1,000 kg of green beans/ha	300-550 trees/ha
	6.73-12.35 kg of dried berries/tree	
	3.37-6.17 kg of dry beans/tree	
	1.82-3.33 kg of green beans/tree	
Liberica	1,000 kg of green beans/ha	300-550 trees/ha
	6.73-12.35 kg of dried berries/tree	
	3.37-6.17 kg of dry beans/tree	
	1.82-3.33 kg of green beans/tree	
Robusta	1,200 kg of green beans/ha	500-1000 trees/ha
	4.44-8.89 kg of dried berries/tree	
	2.22-4.44 kg of dry beans per tree	
	1.20-2.40 kg of green beans/tree	
Rubber	13.15 kg of cuplump/tree	160-280 trees/ha
	(3.4 -4 kg per bt)	(500 trees per ha)
Sugarcane (cane for):		
Centrifugal Sugar	15-90 mt./ha	20,000-25,000 hills/ha
Panocha	12,600-91,000 canes/ha	20,000-25,000 hills/ha
Basi/Vinegar	3,000-9,000 lit./ha	20,000-25,000 hills/ha
Tobacco	400-1,600 kg/ha	14,000-20,000 hills/ha
Virgina	1,800-2,000 kg/ha	
Native	1,600-1,800 kg/ha	
Others (Burley)	1,900-2,200 kg/ha	
Cacao	0.2-3 kg/tree	1,000 trees/ha
Cashew	93.75 kg/tree	70-160 trees/ha
Cotton		
Old file	200-800 kg/ha	10,000-12,500 hills/ha
Series data	200-3,000 kg./ha	10,000-12,500 hills/ha
Palm		
Oil Palm		
Old file	5-60 kg/tree	400-625 trees/ha
New, internet	125-300 kg/tree	143 trees/ha
Kaong	225 kg/tree	143 trees/ha
Pili Nut	5-60 kg/ha	60-70 trees/ha
Betel Nut	30-300 nuts/tree	1,000-1,500 trees/ha
Other Fibers		
Jute	2,500-3,000 kg/ha	
Sisal	2,000-3,500 kg/ha	
Ramie	800-1,400 kg/ha	40,000-45,000 hills/ha
Maguey	130-1,900 kg/ha	2,500-3,000 hills/ha
Kapok	100-2,000 kg/ha	204-280 trees/ha
Bromeliad/ Euphorbia	* 51-120 mt/ha	

* with planting medium

Table 11. Parameters and fruiting season of selected fruit crops

Crop	Planting Density	Yield			Fruits/ Kilo	Bearing Age	Fruiting Season											
		Quantity	Unit	Kilos			J	F	M	A	M	J	J	A	S	O	N	D
MAJOR:																		
Banana	400	1-6	bunches			10-12 mos	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Bungulan				4.4 - 89														
Cavendish				4.4 - 90														
Lacatan				4.4 - 91														
Latundan				4.4 - 92														
Saba				4.4 - 93														
Others				4.4 - 94														
Bungulan				13														
Cavendish				30														
Lacatan				15														
Latundan				10														
Saba				20														
Calamansi	400-625	0.1-2	kaing	4.4 - 88	40-50	6							✓	✓	✓			
Mango	51-100	20-3t	fruits			10				✓	✓	✓	✓					
Carabao				750	3-5													
Piko				600	4-5													
Others																		
Pineapple	28572	8t-12t	fruits	18.9t - 28.4t		12-18 mos			✓	✓	✓	✓						
Other Fruits:				7.2t - 54t														
Balimbing	277	20-900	fruits	100		4-5			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Durian	100	10-500	fruits	500		4-5								✓	✓	✓	✓	
Lanzones	400	2-100	kilos	2-100	60-80	12-20		✓	✓	✓	✓							
Mangosteen	156	100-600	fruits	100	5-6	10						✓	✓	✓	✓	✓	✓	✓
Papaya		5-60	fruits			6-9 mos	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Solo																		
Hawaiian	400-500			156														
Native	1.1t-2.5t			39														
Rambutan	100-156	200-300	fruits	50		5-6						✓	✓	✓	✓			
Tamarind	40-70	1-15	kaing	77-105		3-4					✓	✓	✓	✓	✓	✓	✓	✓
Watermelon	2t-3t	3t-10t	fruits	6.9t - 30t														
Mandarin	160-280	20-1,000	fruits	125	8-9/4-5	5	✓							✓	✓	✓	✓	✓
Orange	120-200	10-600	fruits	100	5-6/3-7	3-4	✓	✓									✓	✓
Avocado	123	500-600	fruits	360	3-5	4-5					✓	✓	✓	✓				
Guava	277	7.5-20	kilos	7.5-20		4-6										✓	✓	✓
Native																		
Guapple	600-625																	
Guyabano	400	12-24	fruits	38.4		3-5					✓	✓						
Jackfruit	100	20-500	fruits	1500		7					✓	✓						
Melon	2t-3t	3t-12t	fruits															
Honey-dew																		
Muskmelon																		
Santol	69	150-300	fruits		5	5-7						✓	✓	✓	✓			
Starapple	156	1000	fruits	275	7-10	5-6	✓	✓	✓	✓								✓
Pomelo	100-156	5-400	fruits	450		4-5	✓									✓	✓	✓
Atis	625	40-75	fruits	30	8-15	3-5							✓	✓	✓	✓	✓	✓
Breadfruit	69	600-800	fruits	480		4-6	✓				✓	✓	✓	✓	✓	✓	✓	✓
Chico	156	500-2t	fruits	400	15-20	6-8				✓	✓	✓	✓	✓	✓			
Duhat	100			100/tree		7-8				✓	✓	✓						
Mabolo	51	10-800	fruits			6-7					✓	✓						
Marang	100	30-1,500	fruits			4-5					✓	✓	✓	✓	✓	✓	✓	✓
Sineguelas	100-156	150-300	fruits	6	50-70	3												
Lime	204-280	10-500	fruits			3-4										✓	✓	✓

The parameters established by the Bureau of Plant Industry (BPI), as shown in Table 11, are the national averages. These levels vary at the provincial level due to the differences in climate type, topography and farm practices. Note that the provincial parameters should not deviate too much from the national average.

Table 12. Guide on Planting and Growing Vegetables

Crop/Variety	Time of Planting	Maturity*	Yield Per Hectare
Mongo/ Mungbean	Feb-Mar/May-Jun/Sep-Oct	65-72 DAP	1.0-1.5 tons
Peanut	May-Jun / Sep-Oct	90-110 DAP	1.5-2.5 tons
Cabbage	Oct - Dec	55-60 DAT	20-25 tons
Eggplant	All season	90-120 DAP	9-11 tons
Tomato	Jan-May / Sep-Oct	55-65 DAT	20-30 tons
Garlic	Oct-Dec	95-120 DAP	8-12 tons
Onion	Oct - Feb	3-4 MAT	8-15 tons
Sweet Potato	All season	90-120 DAP	25-35 tons
Habitchuelas	Oct - Jan	50 DAP	8-12 tons
Snap Beans	All season	43-52 DAP	10-15 tons (green pods)
Brocolli	Oct - Dec	50-65 DAT	4-10 tons
Cauliflower	Sep - Jan	45-60 DAT	20,000 heads
Kangkong	All season	30-50 DAP	10-12 tons
Lettuce (loose leaf)	All season	30-45 DAT	5-10 tons
Pechay	All season	25-30 DAT	6-10 tons
Chinese Cabbage	Oct - Dec	55-65 DAT	10-25 tons
Ampalaya	All season	60-75 DAP	8-15 tons
Stringbeans	All season	50-65 DAP	6-12 tons (green pods)
Bush Sitao	Nov - Mar	45-50 DAP	8-10 tons
Upo	Oct-Mar	90-100 DAP	5-10 tons
Okra	All season	60-75 DAP	6-11 tons
Squash	Nov-Jan	3-5 MONTHS	10-12 tons
Ginger	Apr-May	8-12 MAT	5-10 tons
Sweet Pepper	Sep - Jan	80-90 DAT	10-20 tons
Carrot	All season	75-103 DAS	4-8 tons
Gabi (native)	All season	6-12 MAT	7-12 tons
Radish	Oct-Mar	45-60 DAP	8-10 tons
Potato	Sep - Jan	110-120 DAT	15-25 tons
Chayote	Sep - Jan	6-10 MAT	2.5-4.0 tons
Patola	Apr-May / Sep-Nov	60-85 DAP	3,333-5,000 fruits
Black Pepper	All season	3-6 years	2-4 tons
Cucumber	May-Jul / Oct-Dec	50-65 DAP	10-15 tons
Sweet Pea	Nov-Jan	80-90 DAP	2.0-3.0 tons (green pods)
Celery	Sep - Jan	65-75 DAP	5-6 tons
Chick Pea	Sep - Jan	60-90 DAT	2.5-3.0 tons
Cowpea	All season	60-75 DAP	8-10 tons (green pods)
Hyacinth Beans (batao)	All season	75-90 DAP	10,000-15,000 pods
Lima Beans (patani)	Nov - Mar	5-6 MAS	1.0-2.5 tons
Mustard	All season	25-30 DAT	6-10 tons
Soybeans	Jan-Feb/May-Jun/Sep-Oct	85-100 DAP	2-3 tons

Source: Bureau of Plant Industry (BPI)

Note:*DAP - Days after Planting; DAT - Days after Transplanting

An example of data check for a specific commodity is shown in Table 13. This serves as data check for the yield of mango, in kilograms per bearing tree, provided by the National Mango Research and Development Center in Guimaras. The yield differs by age and type of mango propagation. Similar to most permanent crops, the volume of production depends upon the age of the trees.

Table 13. Yield per tree by propagation and age of mango-carabao

Age of Trees	GRAFTED TREES			SEEDED TREES		
	Kilograms Per Tree			Kilograms Per Tree		
	Average	Minimum	Maximum	Average	Minimum	Maximum
1	-	-	-	-	-	-
2	-	-	-	-	-	-
3	0.50	-	0.50	-	-	-
4	1.00	-	1.00	-	-	-
5	58.00	10.00	150.00	-	-	-
6	70.00	10.00	200.00	-	-	-
7	73.50	0.50	300.00	-	-	-
8	83.67	5.00	300.00	100.00	50.00	150.00
9	104.00	10.00	300.00	100.00	50.00	150.00
10	105.00	20.00	400.00	190.00	10.00	500.00
11	141.25	20.00	450.00	205.00	20.00	550.00
12	171.36	25.00	500.00	207.00	30.00	600.00
13	192.78	25.00	600.00	226.92	25.00	1,000.00
14	194.33	30.00	700.00	297.50	40.00	800.00
15	203.11	28.00	600.00	297.80	28.00	1,200.00
16	269.00	30.00	800.00	340.00	50.00	900.00
17	277.89	31.00	800.00	386.00	20.00	1,500.00
18	278.71	40.00	1,000.00	389.00	30.00	1,200.00
19	327.22	35.00	900.00	450.00	30.00	1,300.00
20	341.50	35.00	900.00	451.53	50.00	1,400.00
21-25	356.67	50.00	1,200.00	563.08	150.00	1,400.00
26-30	463.07	70.00	1,500.00	610.25	180.00	1,800.00
31-40	558.50	85.00	1,500.00	644.25	250.00	2,000.00
41-50	600.00	400.00	800.00	770.18	379.00	2,200.00
51-60	620.00	150.00	1,500.00	974.16	120.00	2,200.00
61-70	650.00	500.00	800.00	1,081.43	105.00	2,500.00
71-80	700.00	400.00	1,500.00	1,185.50	60.00	2,500.00
81-90	720.00	500.00	800.00	1,401.54	123.00	3,100.00
91-100	781.25	400.00	1,500.00	1,600.64	180.00	3,000.00

Source: National Mango Research and Development Center, Guimaras

Table 14 shows an example of validation parameters for fruit crops. The table indicates the range and common levels on number of trees per hectare, yield per bearing tree in kilograms, pieces per kilogram, weight per fruit and kilograms per bunch.

Table 14. Fruit crops parameters, Davao Sur, 2002

Crop	Bearing Age		Number of Trees/Hectare			Yield/Bearing Tree (in kg.)		
	Years	Months	Lowest	Highest	Common	Lowest	Highest	Common
Banana								
Bungulan	-	9-12	600	900	800	30	40	30
Cavendish	-	9-12	1500	1700	1700	30	60	45
Lakatan	-	9-12	600	900	800	25	54	40
Latundan	-	9-12	600	900	800	30	52	30
Saba	-	9-12	600	700	625	25	50	40
Others	-	9-12	300	500	400	24	36	30
Mango								
Carabao	5	-	30	277	80	10	2200	500
Pico	8	-	30	277	80	10	2200	600
Others	10	-	30	200	65	10	1100	450

Table 14. continued…

Crop	Pieces/Kilogram			Weight/Fruit			Kilograms/Bunch		
	Lowest	Highest	Common	Lowest	Highest	Common	Lowest	Highest	Common
Banana									
Bungulan	8	20	20	-	-	-	15	20	15
Cavendish	4	10	7	-	-	-	25	35	30
Lakatan	8	20	18	-	-	-	15	25	20
Latundan	5	20	15	-	-	-	15	25	15
Saba	10	20	18	-	-	-	20	30	20
Others	5	15	12	-	-	-	12	18	15
Mango									
Carabao	4	6	5	-	-	-	-		-
Pico	4	6	5	-	-	-	-		-
Others	5	7	6	-		-	-		-

Pieces per kilogram apply to the number of small fruits in a kilogram, like calamansi and tomato. Weight per fruit is applied to big fruits like papaya and jackfruit. The kilogram per bunch is applied to fruits in bunches, like banana and industrial crops like oil palm.

The number of trees per hectare may be used to estimate the area. If the number falls outside the range, the number of trees and/or area could have been underestimated or overestimated. A number above the range may indicate overestimation of the number of trees or underestimation of the area. The area for scattered trees or in small farms is determined by assuming the trees are planted in the same way as in compact farms and the area is estimated based on the number of trees to a hectare.

Yield in kilograms per unit indicates the relative production level. A number below the yield range indicates underestimation while a level above the range suggests overestimation. Under normal condition, the acceptable level is either within the range, the arithmetic mean, or common level of the parameters, where available. Both parameters on number of trees per hectare and kilograms per hectare are in an annual basis.

It is important that a harvesting calendar be established for each crop and province in a normal year. Harvest months may vary by crop and year due to farm practices or technology, as well as impact of climate change. Table 15 shows an example of a harvesting calendar.

Table 15. Harvesting calendar, Davao Sur, 2002

Crop	HARVEST MONTHS											
	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
	in percentage											
Banana												
Bungulan	7	8	9	10	9	9	9	9	8	7	8	7
Cavendish	7	6	7	10	10	9	8	7	9	9	9	9
Lakatan	7	8	9	10	11	9	8	8	8	8	7	7
Latundan	9	8	6	6	7	7	8	9	10	10	10	10
Saba	8	7	6	8	9	8	8	8	8	10	10	10
Others	7	8	9	10	9	9	9	8	8	8	8	7
Mango												
Carabao	6	6	7	13	18	10	8	7	6	6	7	6
Pico	5	5	7	14	19	12	8	7	6	6	6	5
Others	5	5	8	17	20	10	8	5	6	6	5	5

With the large number of crops being monitored every reporting period, it is suggested that the final data observations be prepared after the submission of the final annual estimates and the release of the Quarterly Report of the Performance in Agriculture. The crops listed shall be those with questionable yield, i.e.

kilograms/bearing tree or kilograms/hectare, and bearing trees/hectare. Table 16 shows an example guide in validating data using validation parameters.

Table 16. Final data observations, Fruit Crops, 2007

Crop	Item	2007 Annual Final Data	Parameters	
			PSO	BPI
Bungulan	kilograms/bearing hill	12.57	30	79
	bearing hills/hectares	187.00	400	400
Lacatan	kilograms/bearing hill	38.54	30	58
	bearing hills/hectares	110.00	400	400
Latundan	kilograms/bearing hill	7.49	20	88
	bearing hills/hectares	177.00	400	400
Saba	kilograms/bearing hill	8.25	35	122
	bearing hills/hectares	115.00	400	400
Mango - Carabao	kilograms/bearing tree	6.33	75	750
	bearing trees/hectares	25.00	50	51-100
Mango - Piko	kilograms/bearing tree	5.12	75	600
	bearing trees/hectares	36.00	60	51-100
Pineapple	kilograms/bearing tree	2.16	10	8.9t-28.4t
Lanzones	kilograms/bearing tree	15.34	10	2-100
	bearing trees/hectares	206.00	200	400

A copy of the data series of each other crops is a must during the data review. The POs should maintain its own data series for all other crops by collection period as quick reference. The data series are likewise available in the two compiling systems, in each of the sub-commodity groups. The data series maintained include the working files and released data. The data series show the estimates in the past and mostly in the current reporting period.

In the event that there is an insufficient source of information that would serve as data checks or reference/parameters, other possible sources of this information may be tapped.

1. Analytical Tools in Data Validation. This section discusses two commonly used analytical tools in data validation. These are the analysis of time series data and Delphi-User's Perspective.

Analysis of Time Series Data. Time series analysis is an approach used to identify the underlying characteristics of a data. It is one of the most commonly used analysis technique in agricultural statistics. Given the dynamics of agricultural situation and its adaptability with natural factors and human interventions, both of which may vary across time, analyzing the trend of agricultural statistics is a comprehensive approach in data validation.

The most basic method is to graph the time series data and visually examine the overall trend (increasing, decreasing), cyclic patterns (seasonal effects), outliers (data points which are exceedingly high or low) and turning points (different trends within a data series).

A line graph may be constructed to easily identify the movement of the parameter. From this series, stability and/or fluctuations may be identified. Since the current estimate to be validated is always on the end of the plotted trend, its movement relative to the historical data is visualized through the line graph. If there are no known extreme factors present which could have affected the parameter, say production, stability in the trend is expected. On the other hand, if there are compromising conditions present, say typhoons, it is expected to have noticeable fluctuations on the trend.

In data validation, time series analysis can be used to reconcile and resolve inconsistencies of the statistics from various sources other than the existing statistical series. The data set that follows the general pattern of change in the series may be considered more accurate than the other set.

The following are points to consider on validating the data of other crops.

Case 1: Questionable Semestral Data on Number of Bearing Trees

Usually, the number of bearing trees reported in every semester is the same throughout the year. The same trees are reported even if these failed to bear fruit at certain reference period. However, there is a possibility that there maybe changes due to trees that were cut, trees which fell due to calamities or due to new bearing trees.

On the example illustrated in Table 17, it can be noticed that there is a significant discrepancy between the number of bearing trees in Year 3 and Year 4 between the periods of July to December and January to June. It appeared that the second semester is independent from the first semester, but it should have been the same number of trees referred to, since these trees were there throughout the year. Instances of this case should always be verified.

Table 17. Number of Bearing Trees, Coffee, by variety, January-June and July-December

Crop/Variety	Year 1	Year 2	Year 3	Year 4
Coffee				
Arabica	11,846	11,846	11,609	11,609
Jan-Jun	11,846	11,846	11,135	11,135
Jul-Dec	11,846	11,846	11,609	11,609
Robusta	153,739	162,426	157,553	157,553
Jan-Jun	153,739	156,814	137,996	137,996
Jul-Dec	153,739	162,426	157,553	157,553
Liberica	147,444	151,867	145,881	145,881
Jan-Jun	147,444	151,867	136,680	136,680
Jul-Dec	147,444	150,393	145,881	145,881

Case 2: Yield and Bearing Trees per Hectare

Each crop has its own productive age. Yield also varies by crop, age and type of propagation. Normally, for permanent crops, production is low during the early productive age. Production increases as the tree matures. Grafted trees bear fruit much earlier as compared to trees planted as seeds.

Table 18 shows the estimates of the different data items for calamansi from Year 1 to Year 6 for January to June. With reference to the validation parameters of calamansi in Table 18.A, calamansi planted as seeds bear fruit between 4 to 6 years from planting. Grafted seedlings bear fruit much earlier or within the year. Note the drop in kilograms per bearing tree with significant increase in bearing trees in Year 2 and Year 5. New bearing trees produced small quantities, pulling down the average yield. Also, production continued to increase as the bearing trees matured in Year 5 and Year 6. In cases like this, ensure that the bearing trees per hectare and yield per bearing tree is within the acceptable range as years go on.

Table 18. Volume of production, area, bearing trees, kilograms per tree and bearing trees per hectare, Calamansi, January-June

Item	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Calamansi						
Production (m.t.)	732.84	768.23	828.98	1,212.30	1,366.95	2,021.27
Area Planted (ha.)	60.00	150.00	200.00	210.00	210.00	260.00
Bearing Trees	16,050	21,900	22,800	24,300	62,250	83,000
Bearing Trees/ha.	350	365	380	405	415	415
Kg./bearing tree	45.66	35.08	36.36	49.89	21.96	24.35

Table 18.A. Validation parameters for calamansi

Parameter	Low	Common	High
Bearing Age	4 - 6 years		
Planting Density (trees/hectare)	400	450	625
Yield (kg.)	4.40	45.00	88.00

Case 3: Questionable Yield Levels between Varieties

It is vital to be familiar with the characteristics of a crop, especially on size and weight, between varieties. The yield reflects which variety produces more and heavier fruits. For example, the Hawaiian variety of papaya produces much bigger and heavier fruits than the two other varieties, native and solo. In this case, Hawaiian variety is expected to have relatively higher yield. However, in the example shown in Table 19, the Hawaiian variety in Year 3 has the lowest yield. Having knowledge of the fact that the particular variety is supposed to have higher yield compared to the other two, the data must be further verified, validated and corrected, if needed.

Table 19. Yield per bearing tree, in kilograms, Papaya, July-December

Crop/Variety	Year 1	Year 2	Year 3
Papaya			
Hawaiian	45.65	46.08	22.57
Native	22.40	25.42	25.05
Solo	31.38	31.39	32.69

Case 4: Unacceptable Simultaneous Increase in Area and Bearing Trees

Based on the previous examples, permanent crops have growing years before bearing fruits. Each crop also varies in terms of planting density, given the size of the tree and growing requirements. For the permanent crops, any increase in area does not necessarily mean increase in bearing trees. Newly planted trees, if any, will have to be reported in the additional areas. After reaching their productive years, the increase in the number of bearing trees should then be reflected.

A report on simultaneous increase in area and bearing trees could have been based on the area previously reported, specifically, years back when these new reported bearing trees were planted. This could eventually lead to questionable results.

An example in Table 20 shows that the reported bearing trees per hectare of mango from 275 (Year 4) to 317 (Year 5) bearing trees per hectare are both way above the range of 100-150 trees per hectare, according to the validation parameters of mango in Table 20.A. In spite of an increase in area, the increase in the number of bearing trees within a year is not acceptable.

Table 20. Area, bearing trees and bearing trees per hectare, mango, January-June

Item	Year 1	Year 2	Year 3	Year 4	Year 5
Mango					
Area Planted (ha.)	5.00	2.00	3.00	3.00	5.00
Bearing Trees	225	428	550	550	950
Bearing Trees/ha.	45	86	110	275	317

Table 20.A. Validation parameters for mango

Parameter	Low	Common	High
Bearing Age	5 - 10 years		
Planting Density (trees/hectare)	100	120	150

Case 5: Acceptable Simultaneous Increase in Area and Bearing Trees

The example in Table 21 shows that the bearing trees per hectare of mango carabao are 36 and 42, for Year 5 and Year 6, respectively. Any increase in bearing trees along with an increase in area is acceptable, since the number of bearing trees per hectare is still within the density of 70 trees per hectare, based on the validation parameters in Table 21.A. Also, the 32 bearing trees per hectare from Year 1 to Year 3 is still within the acceptable range.

Table 21. Area, bearing trees and bearing trees per hectare, mango carabao, January-June

Item	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Mango Carabao						
Area Planted (ha.)	6,742	6,833	6,850	6,870	6,870	6,900
Bearing Trees	218,090	219,912	219,920	240,450	245,259	291,280
Bearing Trees/ha.	32	32	32	35	36	42

Table 21.A. Validation parameters for mango carabao

Parameter	Low	Common
Bearing Age	4 - 10 years	
Planting Density (trees/hectare)	30	70

Case 6: High Level Planting Bearing Trees per Hectare as Against the Parameters

The age of the planting materials may vary and affect the year when the trees start to bear fruits. In Table 22, using jackfruit statistics as an example, despite the planting material of one-year old or two-year old trees, the number of bearing trees per hectare is way above the acceptable range of 100-200 trees per hectare, as shown in the validation parameters in Table 22.A.

There was an overestimation in the number of bearing trees despite the use of one-year old or two-year old planting materials. The area is correspondingly based on a five (5) or six (6) year data. Based on other sources of parameters, the current number of bearing jackfruit trees, given that these were planted five to six years ago, is between 4,500 to 5,850 trees.

Table 22. Area and bearing trees, jackfruit, 2008, 2013-2016, July-December

Item	2008	…	2013	2014	2015	2016
Area Planted (ha.)	30	…	30	30	30	30
Bearing Trees	2,400	…	36,520	36,520	33,500	29,300
Bearing Trees/ha.	…	…				
1 year old planting material	…	…	1,217	936	1,117	977
2 year old planting material	…	…	…	1,217	859	977

Table 22.A. Validation parameters for jackfruit

Parameter	Low	Common	High
Bearing Age	7 - 10 years		
Planting Density (trees/hectare)	100	150	200

Case 7: Questionable Level of Production

The yield or kilogram per bearing hill or tree reflects if production is underestimated, overestimated or within the ideal range. Clearly, the example in Table 23 shows that banana bungulan production is underestimated, given that at least a bunch is produced in a year. It is rather unlikely that a hill produces only an average of 2.32-7.27 kilograms, unless severely damaged. Given this situation, a drop in production for whatever reason should be corrected at the very least to solve the problem of underestimated production. Note that in 2012, due to a calamity, the reported drop in banana bungulan production was too high, from 50.84 metric tons to 31.03 metric tons. The declining trend could have been maintained, but at a very low rate, since the kilograms per bearing hill in the previous report was already very low at 3.67 kilograms. Input errors may also be considered in this case.

Table 23. Volume of production, area, bearing hills, bearing hills per hectare and kilograms per hill, banana bungulan, July-December, 2009-2016

Item	2009	2010	2011	2012	2013	2014	2015	2016
Production (m.t.)	52.98	57.34	45.99	50.84	31.03	45.00	56.06	70.50
Area Planted (ha.)	18.00	18.00	18.00	18.00	18.00	18.00	18.00	18.00
Bearing Hills	19,790	19,800	19,800	13,860	11,700	9,700	9,700	9,700
Bearing Hills/ha.	1,099	1,100	1,100	770	650	539	539	539
Kg./bearing hill	2.68	2.90	2.32	3.67	2.65	4.64	5.78	7.27

Case 8: Abrupt Change in Production

In Table 24a, the data series shows a production range of 30,353 metric tons to 34,124 metric tons from 2009 to 2010, with an area of about 3,300 hectares. The abrupt change in production in 2013 from 16,310 metric tons to 29,574 metric tons in 2014 is within the range of the levels in the previous years, and the level of area and bearing trees were maintained. The abrupt change in this case is acceptable.

Table 24a. Volume of production, area, and bearing trees, mango, January-June, 2009-2016

Item	2009	2010	2011	2012	2013	2014	2015	2016
Mango								
Production (m.t.)	30,353	34,124	12,549	12,965	16,310	29,574	18,634	21,975
Area Planted (ha.)	3,343	3,384	3,384	3,384	3,384	3,384	3,395	3,395
Bearing Trees	415,800	416,150	416,150	416,174	416,115	407,951	373,220	368,220

Case 9: Abrupt Change in Production, Area and Bearing Trees

In the example in Table 24b, production, area and number of bearing trees of calamansi slightly increased from 2012 to 2015. However, in 2016, these abruptly increased at questionable levels. Calamansi bears fruit in four to six years when planted by seeds, while grafted trees bear minimal quantity of fruits on the first year and gradually increase as the tree matures. The volume in 2016 could not be possible even if a yield of one kilogram per tree is assumed, for the new bearing trees at least. The data series on yield reveals that the annual increase ranges from 0.20 to 1.80 kilograms per bearing tree. A sharp increase in crop production or yield per bearing tree is very remote. The very high number of bearing trees reported in 2016 is because the new trees were included in the report. The 2016 yield of 24.86 per bearing tree is the average yield for the new and old trees, which is not correct since new bearing trees, which were included in the report, have very minimal yield in their initial fruiting. In these cases, thorough and careful review and validation should be done.

Table 24b. Volume of production, area, and bearing trees, calamansi, January-June, 2012-2016

Item	2012	2013	2014	2015	2016
Calamansi					
Production (m.t.)	881.03	892.18	910.74	957.59	3,188.97
Area Planted (ha.)	97.60	99.00	101.50	106.00	348.00
Bearing Trees	27,200	27,377	26,750	26,950	128,255
Bearing Trees/ha.	279	277	264	254	369
Kg./bearing tree	32.39	32.59	34.05	35.53	24.86

Case 10: Initial Report of Previously Unreported Productive Crop

Some productive crops have been verified to have existed in the province but were never been reported for some reasons. Therefore, the crop has no previously reported data series. In this case, the initial report for production, area and bearing trees shall be reported simultaneously, without applying the number of years of growing before reaching bearing age. In the initial report, the levels of kilograms per bearing tree and the number of bearing trees should reflect the situation in the province.

For crops with data series whose levels do not reflect the situation in the province, the number of growing years before the productive age shall be followed. Abrupt change or reflection of the actual situation in the province shall be allowed based on hard facts, surveys and other official documents. A simple example is shown in Table 25.

Table 25. Volume of production, area, number of bearing trees, yield and density, lanzones, January-June, 2009-2016

Item	2009	2010	2011	2012	2013	2014	2015	2016
Lanzones								
Production (m.t.)	-	-	-	-	-	0.50	0.55	0.55
Area (ha.)	-	-	-	-	-	5.00	5.00	5.00
Bearing Trees	-	-	-	-	-	1,000	1,000	1,250
Kg./bearing tree	-	-	-	-	-	0.50	0.55	0.44
Bearing Trees/ha.	-	-	-	-	-	200	200	250

Case 11: Inconsistent Production Share Based on CrPS Reports and Harvesting Calendar

One way of checking the accuracy of production report is through the use of an established harvesting calendar in a normal year. However, the share may vary from year to year due to farm practices, technology and impact of climate. A harvesting calendar gives an idea on what reference period the production movement shall be.

Table 26 reflects the inconsistencies in terms of production shares between the CrPS reports and the established harvesting calendar. The bulk of production differs much between the CrPS and harvesting calendar. Both should have been consistent in the share of production. The POs should maintain an updated harvesting calendar as a basis in any movement of production between reference periods.

Table 26. Production share based on the CrPS report and harvesting calendar, by quarter, mango carabao, 2014

Province	Quarter 1		Quarter 2		Quarter 3		Quarter 4	
	CrPS	Harvesting Calendar	CrPS	Harvesting Calendar	CrPS	Harvesting Calendar	CrPS	Harvesting Calendar
1	11.95	70.00	88.05	30.00	-	-	-	-
2	20.33	50.00	79.67	50.00	-	-	-	-
3	42.50	20.00	57.50	80.00	-	-	-	-
4	67.22	30.00	32.78	70.00	-	-	-	-
5	3.07	28.00	68.58	59.00	19.82	9.00	8.53	4.00
6	2.42	12.00	96.20	79.00	0.78	4.00	0.60	5.00

Case 12: Inconsistency of Estimates in the Crops Compiling System (CCS) against Other Crops Compiling System (OCCS)

Each sub-commodity group has an independent Crops Compiling System. It covers the major and other crops individually listed and regularly appears in all the reporting periods throughout the year. It has two files, one for the production alone and the other for the area, bearing trees, bearing trees per hectare and kilograms per hectare or bearing tree per hectare.

To properly account for the breakdown of the crops not individually listed in Quarter 1 and Quarter 3 worksheets of the CCS, which are collectively termed Other Crops, the OCCS was developed to supplement the CCS. This is a single file which covers all the data items covered in the two files under the CCS.

The OCCS shall first be accomplished as this presents the breakdown of the rest of the other crops not listed in the CCS. This assures that the total for Other Crops is the same in both the CCS and OCCS. Some observations in the CrPS reports are discussed in the subsequent sections.

The crops listed in Table 27 appear in both the CCS and OCCS. However, the levels in the final estimates of Year 1 (Year1F) for both systems differ. The same trees and crops were covered and reported in both compiling systems, therefore, the estimates shall be the same. The estimates of total Other Vegetables with breakdown in the OCCS shall be reflected to the CCS.

Table 27. Volume of production, Other Vegetables, from CCS and OCCS, July-September

Crop	Crops Compiling		Other Crops	
	Year 1P	Year 1F	Year 1P	Year 1F
Camote tops	330.00	330.00	330.00	357.00
Patola	36.00	37.00	36.00	39.26
Black pepper	0.70	0.70	0.70	0.70
Cucumber	2.50	2.60	2.50	2.50
Gabi leaves w/ stem	996.00	996.00	996.00	66.50
Bamboo shoots	8.35	8.35	8.35	6.50
Malunggay leaves	532.00	532.00	532.00	8.02
Jackfruit young	1,603.00	1,603.00	1,603.00	1,524.82
Green papaya	762.00	762.00	762.00	294.50
Chili pepper fruit	2.78	2.78	2.78	1.79
Pao (galiang)	136.80	136.80	136.80	8.01
Tugue	14.80	14.80	14.80	-
Other Vegetables	69.00	69.00	69.00	29.39
Kondol	-	-	24.96	14.96
Chili pepper leaves	-	-	12.85	2.85
Paco	-	-	18.18	8.18
Winged beans	-	-	13.01	3.40

Delphi-User's Perspective. Consultation with major industry authority is another approach to validate the survey results through the Delphi-User's Perspective. To firm up the data, solicit explanations from the industry experts and determine the acceptability. The process passes the judgment on the quality of estimates to the industry experts. Interaction with the data users and industry experts also advocate for greater cooperation on data collection so as to increase response rates. The consultation can also be used to generate feedback on data quality.

Informed industry personnel know the updates on the different developments in their industry. Thus, they can be good source of validating the survey results.

Major industry authority usually maintains relevant and historical data sets on economic situations, local and international trade, prices and supply. They are fully aware on the production and prospects of their industry.

5.3 Outputs for Submission

For Other Crops, the submission of the two accomplished compiling systems is important for the generation of the national level estimates. In the next sections, the two (2) compiling systems, Crops Compiling System and (CCS) and Other Crops Compiling System (OCCS) are shown.

Moreover, an output in the data review and validation is the documentation of the final report which includes the estimates and explanations on the situation during the reporting period. These are crucial in the preparation of the Quarterly Report of the Performance in Agriculture.

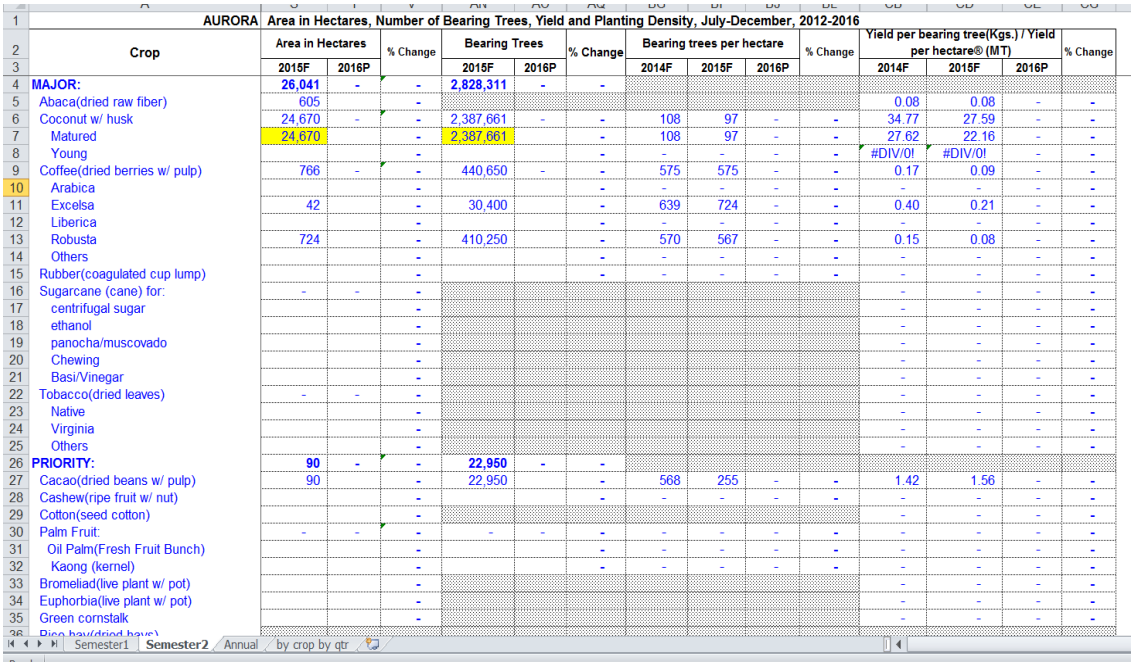
The Crops Compiling System (CCS). The CCS has two (2) separate components. One is a separate file for production data (Figure 2), while the other one is for the data regarding area planted/harvested, number of bearing trees and yield (Figure 3).

	A	M	O	Q	S	T	V	W
1	AURORA : Volume of Production of Major and Priority Non-food and Industrial Crops in Metric Tons, October-December, 2012-2016							
2	Crop	Volume of Production (MT)					% Change	Reason for Change
3		2012F	2013F	2014F	2015F	2016P		
4	MAJOR:	54,797.90	47,693.50	59,423.95	28,383.00	-	-	
5	Abaca(dried raw fiber)	34.70	22.00	20.00	15.00		-	
6	Coconut w/ husk	54,680.00	47,600.00	59,330.00	28,330.00	-	-	
7	Matured	42,580.00	38,020.00	45,680.00	22,650.00		-	
8	Young	12,100.00	9,580.00	13,650.00	5,680.00		-	
9	Coffee(dried berries w/ pulp)	83.20	71.50	73.95	38.00	-	-	
10	Arabica						-	
11	Excelsa	14.50	12.00	12.70	6.50		-	
12	Liberica						-	
13	Robusta	68.70	59.50	61.25	31.50		-	
14	Others						-	
15	Rubber(coagulated cup lump)						-	
16	Sugarcane (cane) for:	-	-	-	-	-	-	
17	centrifugal sugar						-	
18	ethanol						-	
19	panocha/muscovado						-	
20	Chewing						-	
21	Basi/Vinegar						-	
22	Tobacco(dried leaves)	-	-	-	-	-	-	
23	Native						-	
24	Virginia						-	
25	Others						-	
26	PRIORITY:	23.75	17.52	22.50	21.95	-	-	
27	Cacao(dried beans w/ pulp)	15.85	13.65	16.30	19.35		-	
28	Cashew(ripe fruit w/ nut)						-	
29	Cotton(seed cotton)						-	
30	Palm Fruit:	-	-	-	-	-	-	
31	Oil Palm(Fresh Fruit Bunch)						-	
32	Kaong (kernel)						-	
33	Bromeliad(live plant w/ pot)						-	
34	Euphorbia(live plant w/ pot)						-	
35	Green cornstalk						-	
36	Rice hay(dried hays)						-	
37	Coconut Sap/Tuba	7.90	3.87	6.20	2.60		-	
38								

Quarter1 | Quarter2 | Semester1 | Quarter3 | Quarter4 | Semester2 | Annual | by crop by qtr

Ready

Figure 1. A sample of the production data file from the CCS



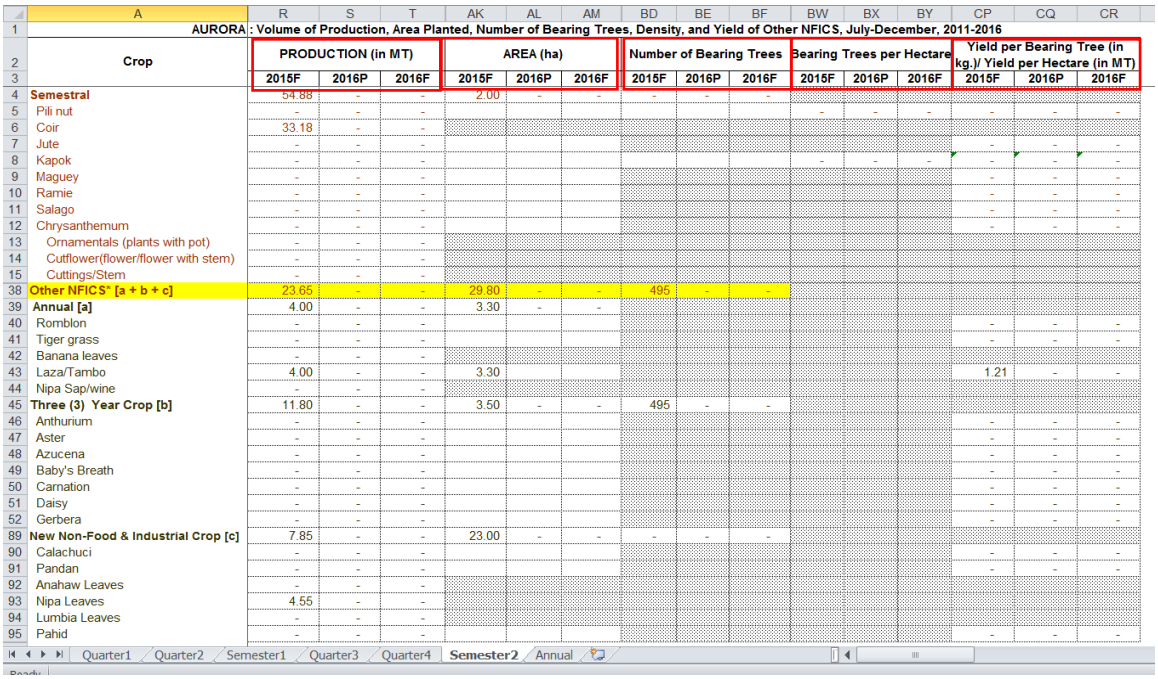
AURORA Area in Hectares, Number of Bearing Trees, Yield and Planting Density, July-December, 2012-2016

Crop	Area in Hectares		% Change	Bearing Trees		% Change	Bearing trees per hectare			% Change	Yield per bearing tree(Kgs.) / Yield per hectare® (MT)			% Change
	2015F	2016P		2015F	2016P		2014F	2015F	2016P		2014F	2015F	2016P	
MAJOR:	26,041	-	-	2,828,311	-	-								
Abaca(dried raw fiber)	605		-								0.08	0.08	-	-
Coconut w/ husk	24,670	-	-	2,387,661	-	-	108	97	-	-	34.77	27.59	-	-
Matured	24,670		-	2,387,661		-	108	97	-	-	27.62	22.16	-	-
Young			-			-	-	-	-	-	#DIV/0!	#DIV/0!	-	-
Coffee(dried berries w/ pulp)	766	-	-	440,650	-	-	575	575	-	-	0.17	0.09	-	-
Arabica			-			-	-	-	-	-	-	-	-	-
Excelsa	42		-	30,400		-	639	724	-	-	0.40	0.21	-	-
Liberica			-			-	-	-	-	-	-	-	-	-
Robusta	724		-	410,250		-	570	567	-	-	0.15	0.08	-	-
Others			-			-	-	-	-	-	-	-	-	-
Rubber(coagulated cup lump)			-			-	-	-	-	-	-	-	-	-
Sugarcane (cane) for:	-	-	-								-	-	-	-
centrifugal sugar			-								-	-	-	-
ethanol			-								-	-	-	-
panocha/muscovado			-								-	-	-	-
Chewing			-								-	-	-	-
Basi/Vinegar			-								-	-	-	-
Tobacco(dried leaves)	-	-	-								-	-	-	-
Native			-								-	-	-	-
Virginia			-								-	-	-	-
Others			-								-	-	-	-
PRIORITY:	90	-	-	22,950	-	-								
Cacao(dried beans w/ pulp)	90		-	22,950		-	568	255	-	-	1.42	1.56	-	-
Cashew(ripe fruit w/ nut)			-			-	-	-	-	-	-	-	-	-
Cotton(seed cotton)			-								-	-	-	-
Palm Fruit:	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Oil Palm(Fresh Fruit Bunch)			-			-	-	-	-	-	-	-	-	-
Kaong (kernel)			-			-	-	-	-	-	-	-	-	-
Bromeliad(live plant w/ pot)			-								-	-	-	-
Euphorbia(live plant w/ pot)			-								-	-	-	-
Green cornstalk			-								-	-	-	-

Semester1 | Semester2 | Annual | by crop by qtr

Figure 2. A sample of the area, number of bearing trees and yield data file from the CCS

The Other Crops Compiling System (OCCS). The OCCS presents the breakdown of the rest of the other crops not listed in the CCS. This is a single file which covers all the data items covered in the two (2) files under the CCS. A sample OCCS is shown in Figure 4.



AURORA : Volume of Production, Area Planted, Number of Bearing Trees, Density, and Yield of Other NFICS, July-December, 2011-2016

Crop	PRODUCTION (in MT)			AREA (ha)			Number of Bearing Trees			Bearing Trees per Hectare			Yield per Bearing Tree (in kg.)/ Yield per Hectare (in MT)		
	2015F	2016P	2016F	2015F	2016P	2016F	2015F	2016P	2016F	2015F	2016P	2016F	2015F	2016P	2016F
Semestral	54.88	-	-	2.00	-	-	-	-	-						
Pili nut	-	-	-							-	-	-	-	-	-
Coir	33.18	-	-												
Jute	-	-	-										-	-	-
Kapok	-	-	-							-	-	-	-	-	-
Maguey	-	-	-										-	-	-
Ramie	-	-	-										-	-	-
Salago	-	-	-										-	-	-
Chrysanthemum	-	-	-										-	-	-
Ornamentals (plants with pot)	-	-	-												
Cutflower(flower/flower with stem)	-	-	-												
Cuttings/Stem	-	-	-												
Other NFICS* [a + b + c]	23.65	-	-	29.80	-	-	495	-	-						
Annual [a]	4.00	-	-	3.30	-	-									
Romblon	-	-	-										-	-	-
Tiger grass	-	-	-										-	-	-
Banana leaves	-	-	-												
Laza/Tambo	4.00	-	-	3.30									1.21	-	-
Nipa Sap/wine	-	-	-												
Three (3) Year Crop [b]	11.80	-	-	3.50	-	-	495	-	-						
Anthurium	-	-	-										-	-	-
Aster	-	-	-										-	-	-
Azucena	-	-	-										-	-	-
Baby's Breath	-	-	-										-	-	-
Carnation	-	-	-										-	-	-
Daisy	-	-	-										-	-	-
Gerbera	-	-	-										-	-	-
New Non-Food & Industrial Crop [c]	7.85	-	-	23.00	-	-	-	-	-						
Calachuci	-	-	-										-	-	-
Pandan	-	-	-										-	-	-
Anahaw Leaves	-	-	-												
Nipa Leaves	4.55	-	-												
Lumbia Leaves	-	-	-												
Pahid	-	-	-										-	-	-

Quarter1 | Quarter2 | Semester1 | Quarter3 | Quarter4 | Semester2 | Annual

Figure 3. A sample of OCCS

Reason/s, Remarks and Explanations. As a source document in the analysis and report preparation, of equal importance to the estimates are the reasons for change, remarks and explanation, especially for estimates with significant change, out of the ideal or acceptable range levels, or not realistic enough but exists in the province. Large changes need stronger reasons to support the extent of the change. Conventions must also be considered, such as attribution of change to the movement in the area planted or harvested being applicable for temporary mono-harvest crops.

The required reasons come in two aspects. The first is on any difference between the preliminary and the final estimates. The second is on the reasons for changes compared to the previous year of the same period. The first aspect shall provide an idea on the changes for the consolidation and maintenance of the Philippine National Accounts. It shall clarify for the change of level between the preliminary estimates and final data. The second aspect is the required description of the highlights of the situation in the province, such as the climate that occurred in the province from the previous up to the current quarter, changes in the agricultural structure due to programs and policies implemented by the national and local government, as well as the other stakeholders in the agriculture sector.

On weather or climate, it is important that its impact to the crops or response of the crop be cited. Crops respond differently to changes in weather or climate and by growing stage. The impact to the crop is better cited along with the growing stage for the crop.

Some existing programs implemented by the government that may affect crop production are the Vegetable Production Program, Rootcrops Program, Coffee Rehabilitation Program, Rubber Production Program and other locally implemented programs. Infrastructures being put up in the province, likewise, may create impact on crop production. These include irrigation facilities, warehouses, tram lines, green houses, freezer van and the like.

To further improve the reasons, remarks or explanation and be more useful to the data users, the following should be considered.

<u>Reason/s for Any Differences between Preliminary and Final Data</u>

It is important that any difference between the preliminary and final data be documented. This is to keep track of the cause of the change in level and not on what affected the crop to increase or decrease. Table 28 shows an example of large discrepancy between the preliminary and final estimates of vegetables and rootcrops production for Year 3. Justification on this case would include evidence to confirm and support the differences between the two data and such should be properly documented.

Table 28. Volume of production, in metric tons, Vegetables and Rootcrops, April-June

Crop	Year 1	Year 2	Year 3P	Year 3F
Vegetables and Rootcrops	371.51	390.64	230.02	307.22
Asparagus	50.00	55.00	47.67	62.87
Ampalaya	1.10	1.12	0.73	1.58
Brocolli	132.74	139.38	62.74	57.19
Cabbage	4.02	5.03	5.20	5.20
Carrots	0.55	0.57	1.85	2.90
Cauliflower	1.00	2.00	43.50	7.40
Cassava	181.50	186.93	68.00	169.60
Radish	0.60	0.61	0.33	0.48

Reason/s for All Crops Regardless of Change or No Change

The provincial estimate is the result of the different responses which reflects if the current estimates are the same, higher or lower, compared to the estimates of the same period last year. The reasons for the change in each of the crops being monitored, regardless of the degree (even if there is no change at all), must always be specified. Table 29 shows an example of a complete report regarding the reasons for the change in the production of selected crops.

Table 29. Volume of production, in metric tons, Selected Crops, January-March

Crop	% Change	Reason/s for Change
Abaca	(7.56)	Hills were toppled down due to Typhoon "Nina"
Coconut	(2.31)	Less nuts developed due to effect of dry spell from previous quarters
Mature	(2.58)	Less nuts developed due to effect of dry spell from previous quarters
Young	8.28	Higher demand for fresh buko juice
Coffee	(10.54)	Effect of strong winds brought by Typhoon "Lawin" during the flowering stage
Arabica	(1.53)	Cutting down of old trees and less productive trees
Robusta	(2.03)	Effect of strong winds brought by Typhoon "Lawin" during the flowering stage
Rubber	17.87	More tapping activities due to good buying price of cuplump
Sugarcane	3.03	Sufficient and proper application of fertilizer
Tobacco	3.82	Increase in area harvested due to contract growing of ABC Inc.
Native	1.00	Sustained preference for chewing and cigar leaf
Virginia	2.28	Increase in area harvested due to contract growing of ABC Inc.
Mongo	0.27	More and better pods developed due to distribution of quality seeds
Peanut	9.10	More pods developed due to favorable soil moisture
Cabbage	(1.21)	Shifted to production of brocolli, lettuce and Chinese pechay
Eggplant	3.15	Bigger fruits harvested due to sufficient use of fertilizer

Table 29. continued…

Crop	% Change	Reason/s for Change
Banana	5.23	Increased bearing hills on Cavendish
Bungulan	(0.79)	Affected by Sigatoka disease(Toril Plantation)
Cavendish	7.96	Increased area and number of bearing hills harvested
Lacatan	(0.49)	Less fertilizer usage
Latundan	(6.04)	Affected by bugtok disease
Saba	(7.95)	Affected by bugtok disease
Others	(1.65)	Some areas shifted to cavendish.
Calamansi	(8.79)	Decrease in number of bearing trees due to Typhoon "Nina"
Pineapple	2.61	Increase in area harvested from corporate farms

Identification of Pest and Diseases

Pests and diseases vary by crop, growing stage and season. The presence the effect of these on the crops should always be specifically identified. Table 30 shows a comparative example of how the presence of pests and diseases should be reported.

Table 30. Volume of production, in metric tons, onion, eggplant, abaca and cacao

INCORRECT

Crop	% Change	Reasons for Change
Onion	(2.46)	Affected by pests
Eggplant	(3.66)	Affected by pests
Abaca	(4.04)	Affected by disease
Cacao	(35.64)	Poor quality fruits/infected by a disease

CORRECT

Crop	% Change	Reasons for Change
Onion	(2.46)	Affected by "army worms"
Eggplant	(3.66)	Affected by "flee beetles and fruit borer"
Abaca	(4.04)	Affected by "mosaic and bunchy top disease"
Cacao	(35.64)	Poor quality fruits due to "black pod disease"

Identification of Typhoons/Calamities and Date of Occurrence

Every year, an average of 20 typhoons enters the Philippine Area of Responsibility as reported by Philippine Atmospheric Geophysical Astronomical Services Administration (PAGASA). Typhoons vary in coverage area and adverse effects on crops. In some cases, typhoons confine their influence to certain areas such that the said typhoon may not be felt in the rest of the production areas. The identity of the typhoon that hit the area shall help in tracking the crop and the amount of damage it inflicted in the production area.

Table 31 shows an example of properly identifying typhoons as sources of change.

Table 31. Volume of production, in metric tons, coconut and abaca

INCORRECT

Crop	% Change	Reasons for Change
Coconut	(24.58)	Series of typhoons hit the prov
Mature	(26.23)	Series of typhoons hit the prov
Young	(28.36)	Series of typhoons hit the prov
Abaca	(21.92)	Damaged by typhoon

CORRECT

Crop	% Change	Reasons for Change
Coconut	(24.58)	Decrease in number of bearing trees due to Typhoon "Nona" last year
Mature	(26.23)	Decrease in number of bearing trees due to Typhoon "Nona" last year
Young	(28.36)	Decrease in number of bearing trees due to Typhoon "Nona" last year
Abaca	(21.92)	Toppled down hills due to Typhoon "Nina" last quarter

Identification of the Crop in which the Other Crop Shifted To

With the large number of crops being monitored, the identity of the crops in which other crops shifted to, shall indicate the crops most likely to drop or increase in the coming periods. These crops should be specified. An example is illustrated in Table 32.

Table 32. Volume of production, in metric tons, tobacco, sugarcane and mongo, January-March

INCORRECT

Crop	% Change	Reasons for Change
Tobacco	14.99	shifted from other variety
Native	24.58	shifted from other variety
Virginia	(4.35)	shifted to other variety
Sugarcane	(28.08)	shifted to other crops
Mongo	12.89	shifted from other crops

CORRECT

Crop	% Change	Reasons for Change
Tobacco	2.58	more area harvested due to financial support from XYZ Corporation for native variety
Native	20.72	shifted from virginia variety; more area harvested due to financial support from XYZ Corporation
Virginia	(5.96)	shifted to native variety
Sugarcane	(28.08)	shifted to corn
Mongo	12.89	shifted from peanut

Inconsistent Reason/s in Reference to Other Data Items

The reasons for change shall not be confined to the movement of production, but the data that supports the change such as the number of bearing trees and bearing trees per hectare should be considered as well. The item referred to should be consistent as cited in the reasons.

In an example in Table 33, the 2.47% increase from Year 1 to Year 2 production of oil palm was attributed to an increase in the number of bearing trees. However, Table 34 showed no increase in the number of bearing trees from Year 1 to Year 2. Also, there was barely an increase in the bearing tree per hectare, as observed in Table 35. This is a common error in reporting and should always be observed and verified.

Table 33. Volume of production, in metric tons, oil palm, July-December

Crop	% Change	Reasons for Change
Oil Palm	2.47	increase in bearing trees

Table 34. Number of bearing trees, oil palm

Crop/Period	Year 1	Year 2
Oil Palm	1,375,550	1,375,550
Jan-Jun	1,140,000	1,375,550
Jul-Dec	1,375,550	1,375,550

Table 35. Bearing trees per hectare, oil palm

Crop/Period	Year 1	Year 2
Oil Palm	314	314
Jan-Jun	600	314
Jul-Dec	314	314

Summary of Reason/s

The summary of reasons should integrate, if possible, the reasons from its components and should be precise when traced. Where possible, the summary considers the major contributor which supports the change. For the case of crops with variety, an example is shown in Table 36. The overall production of onion decreased. In this case, the summary of reason for onion is the same reason for the variety with the largest decrease, or the most common reason/factor attributed to the varieties that decreased. Since the native variety had the highest decrease, its reason shall also be the summary of reasons for onion.

Table 36. Volume of production, in metric tons, onion, January-March

INCORRECT

Crop/Variety	Year 1	Year 2	% Change	Reasons for Change
Onion	11,583.25	11,456.19	(1.10)	Lesser area harvested due to damages on seedlings caused by Typhoons "Lando" and "Nona'
Native	11,174.54	11,048.28	(1.13)	Lesser area planted as planting materials were infested with onion weevils
Bermuda	408.71	407.91	(0.20)	Lesser area harvested due to damages on seedlings caused by Typhoons "Lando" and "Nona'

CORRECT

Crop/Variety	Year 1	Year 2	% Change	Reasons for Change
Onion	11,583.25	11,456.19	(1.10)	Lesser area planted as planting materials were infested with onion weevils
Native	11,174.54	11,048.28	(1.13)	Lesser area planted as planting materials were infested with onion weevils
Bermuda	408.71	407.91	(0.20)	Lesser area harvested due to damages on seedlings caused by Typhoons "Lando" and "Nona'

Regional Summary of Reasons Accounting for the Major Contributing Provinces

As in the previously discussed summary of reasons, the summary for the regions shall be a consolidation of the reasons from among the provinces which support the change. Depending on the trend, the reason(s) attributed to by the large contributing province(s) shall be cited. Table 37 illustrates that production for region A dropped by 0.32 percent. In this case, the summary of reason for region A is the same reason for the provinces with the major contribution to the decline, or the most common reason/factor attributed to the provinces which decreased. Since, province C and province D posted highest reduction in production, therefore reasons shall also be the summary of reasons for banana. In cases, where only one province reports harvest, adopt the reason for the region.

Table 37. Volume of production, in metric tons, banana, January-March

Region/Province	Year 1	Year 2	% Change	Reasons for Change
Region A	2,833.22	2,824.1	(0.32)	Decrease in area harvested area planted with rubber (Prov D)
Province A	1,590.00	1,628.5	2.42	Sufficient water supply resulted from constant rainfalls
Province B	427.86	450.9	5.37	Increase no. of bearing hills harvested
Province C	646.42	588.2	(9.01)	Experienced lodging
Province D	168.94	156.6	(7.32)	Decrease in area harvested area planted with rubber

CORRECT

Region/Province	Year 1	Year 2	% Change	Reasons for Change
Region A	2,833.22	2,824.10	(0.32)	Lodging (Prov C) and shifted to rubber (Prov D)
Province A	1,590.00	1,628.5	2.42	Sufficient water supply resulted from constant rainfalls
Province B	427.86	450.9	5.37	Increase no. of bearing hills harvested
Province C	646.42	588.2	(9.01)	Experienced lodging
Province D	168.94	156.6	(7.32)	Decrease in area harvested area planted with rubber

Vague Summary of Reasons

The summary of reasons should be specific, clear and precise. An example in Table 38 shows a better summary of reasons regarding decrease in the production of papaya. The decrease was specifically attributed to old and less productive trees, instead of citing a variety, which is more objective and informative.

Table 38. Volume of production, in metric tons, papaya, January-March

Crop/Variety	Year 1	Year 2	% Change	Reasons for Change
Papaya	680.51	614.10	(9.76)	Decrease in production reported for native papaya
Hawaiian	240.22	255.36	6.30	Increase in bearing trees
Native	435.62	357.34	(17.97)	Decrease in bearing trees due to old less productive trees
Solo	4.67	1.40	(70.02)	Increase productive trees

CORRECT

Crop/Variety	Year 1	Year 2	% Change	Reasons for Change
Papaya	680.51	614.10	(8.72)	Decrease in bearing trees due to old less productive trees
Hawaiian	240.22	255.36	7.66	Increase in bearing trees
Native	435.62	357.34	(17.81)	Decrease in bearing trees due to old less productive trees
Solo	4.67	1.40	69.70	Increase productive trees

APPENDICES

Appendix A. Timetable of Activities

Activity	Survey Rounds			
	February Round	**May Round**	**August Round**	**November Round**
Pre-survey activities				
Updating of top producing municipalities	6-10 Feb			
Reproduction of collection form	16-17 Feb	18-19 May	17-18 Aug	16-17 Nov
Briefing of statistical researchers (SR)	16 Feb	18 May	18 Aug	17 Nov
Data collection and supervision				
Data collection	17-28 Feb	19-31 May	21-31 Aug	20-30 Aug
Mailing of Crops Compiling to RSSOs/PSOs	24 Feb	26 May	25 Aug	24 Nov
Data processing and generation of tables	28 Feb-07 Mar	31 May-07 Jun	31 Aug-07 Sept	30 Nov-05 Dec
Data review and validation				
Provincial Data Review	nl 10th Mar	9th Jun	11th Sept	7th Dec
Submission of provincial report to RSSO & CO-CSD (soft-copy)	14 Mar	14 Jun	14 Sept	8 Dec
Consolidation and pre-RDR at RSSO	15-18 Mar	15-19 Jun	15-19 Sept	8-11 Dec
Submission of RSSO report to CO (e-copy)	27 Mar	26 Jun	25 Sept	14 Dec
Regional Data Review	14-16 Apr	14-16 Jul	14-16 Oct	14-16 Dec
Submission of RDR results to CO	19 Apr	19 Jul	18 Oct	20 Dec
National Data Review	24-28 Apr	24-28 Jul	23-27 Oct	2-6 Jan '18
Generation of statistical tables	Apr	Jul	Oct	Jan
Preparation and web posting of Quarterly Bulletin				
Major Non-Food & Industrial Crops Quarterly Bulletin	nl 31 May	nl 31 Aug	nl 28 Nov	nl 28 Feb
Major Fruit Crops Quarterly Bulletin	nl 31 May	nl 31 Aug	nl 28 Nov	nl 28 Feb
Major Vegetables & Rootcrops Quarterly Bulletin	nl 31 May	nl 31 Aug	nl 28 Nov	nl 28 Feb

Appendix B. Data Items for Submission

Survey Round	Production		Area Planted/Harvested		Number of Bearing Trees/Hills/Vines	
	Preliminary	Final	Preliminary	Final	Preliminary	Final
February Round	Jan-Mar	Oct-Dec July-Dec Jan-Dec		July-Dec Jan-Dec		July-Dec Jan-Dec
May Round	Apr-June Jan-June		Jan-June		Jan-June	
August Round	July-Sep	Apr-June Jan-June		Jan-June		Jan-June
November Round	Oct-Dec July-Dec Jan-Dec	July-Sep	July-Dec Jan-Dec		July-Dec Jan-Dec	

Appendix C. Reports

Provincial Report on Production (Crops Compiling System)

APAYAO : Volume of Production of Major and Priority Non-food and Industrial Crops in Metric Tons, January-March, 2012-2016

Crop	Volume of Production (MT)					% Change	Reason for Change
	2012F	2013F	2014F	2015F	2016F		
MAJOR:	**53.30**	**66.95**	**70.78**	**88.10**	**89.45**	**1.53**	
Abaca (dried raw fiber)						-	
Coconut w/ husk	40.50	51.00	50.88	65.10	66.25	**1.77**	more fruits harvested due to high demand of buko juice
Matured	15.50	20.00	18.00	25.10	23.75	**(5.38)**	Harvested young. High demand of buko juice
Young	25.00	31.00	32.88	40.00	42.50	**6.25**	more fruits harvested due to high demand of buko juice
Coffee(dried berries w/ pulp)	12.80	15.95	19.90	23.00	23.20	**0.87**	More bearing trees (Robusta)
Arabica	4.30	6.45	6.00	5.70	5.58	**(2.11)**	Cutting of old unproductive trees
Excelsa	1.70	2.00	1.78	1.70	1.67	**(1.76)**	Cutting of old unproductive trees
Liberica						-	
Robusta	6.80	7.50	12.12	15.60	15.95	**2.24**	more bearing trees harvested
Others						-	
Rubber(coagulated cup lump)						-	
Sugarcane (cane) for:	-	-	-	-	-	-	
centrifugal sugar						-	
ethanol						-	
panocha/muscovado						-	
Chewing						-	
Basi/Vinegar						-	
Tobacco (dried leaves)	-	-	-	-	-	-	
Native						-	
Virginia						-	
Others						-	
PRIORITY:	**3.50**	**4.00**	**4.78**	**6.50**	**6.85**	**5.38**	
Cacao (dried beans w/ pulp)	3.50	4.00	4.78	6.50	6.85	**5.38**	Additional bearing trees harvested
Cashew(ripe fruit w/ nut)						-	
Cotton (seed cotton)						-	
Palm Fruit:						-	
Oil Palm(Fresh Fruit Bunch)						-	
Kaong (kernel)						-	
Bromeliad(live plant w/ pot)						-	
Euphorbia(live plant w/ pot)						-	
Green cornstalk						-	
Rice hay (dried hays)						-	
Coconut sap/tuba						-	
Other NFICC*	3.90	4.50	8.41	9.60	10.50	**9.38**	sustained demand of betel nut

* Other Non-food, Industrial and Commercial Crops (NFICC) include all other NFICC's not enumerated above.

Total NFICS (est.)	60.70	75.45	83.97	104.20	106.80	**2.50**
Other NFICS (est.)	7.40	8.50	13.19	16.10	17.35	**7.76**

APPROVED:

instructions | **Quarter1** | Quarter2 | Semester1 | Quarter3 | Quarter4 | Semester2 | Annual | by crop by qtr

Appendix D. Reports

Provincial Report on Area and Number of Bearing Trees (Crops Compiling System)

APAYAO Area in Hectares, Number of Bearing Trees, Yield and Planting Density, January-June, 2012-2016

Crop	Area in Hectares					% Change	Bearing Trees					% Change
	2012F	2013F	2014F	2015F	2016F		2012F	2013F	2014F	2015F	2016F	
MAJOR:	**163**	**222**	**222**	**253**	**255**	**0.89**	**43,278**	**63,130**	**72,610**	**76,350**	**76,395**	**0.06**
Abaca(dried raw fiber)						-						-
Coconut w/ husk	56	100	100	130	130	-	6,500	11,610	11,610	15,000	15,000	-
Matured	56	100	100	130	130	-	6,500	11,610	11,610	15,000	15,000	-
Young						-						-
Coffee(dried berries w/ pulp)	105	120	120	121	123	**1.65**	36,778	51,520	61,000	61,350	61,395	**0.07**
Arabica	20	50	40	34	34	-	6,128	21,870	21,000	17,850	17,500	**(1.96)**
Excelsa	35	30	20	17	17	-	13,900	12,800	10,000	8,500	8,370	**(1.53)**
Liberica						-						-
Robusta	50	40	60	70	72	**2.86**	16,750	16,850	30,000	35,000	35,525	**1.50**
Others						-						-
Rubber(coagulated cup lump)						-						-
Sugarcane (cane) for:	-	-	-	-	-	-						
centrifugal sugar						-						
ethanol						-						
panocha/muscovado						-						
Chewing						-						
Basi/Vinegar						-						
Tobacco(dried leaves)	2	2	2	2	2	**12.50**						
Native	2	2	2	2	2	**12.50**						
Virginia						-						
Others						-						
PRIORITY:	**12**	**15**	**20**	**30**	**30**	-	**4,800**	**10,500**	**15,000**	**17,000**	**17,250**	**1.47**
Cacao(dried beans w/ pulp)	12	15	20	30	30	-	4,800	10,500	15,000	17,000	17,250	**1.47**
Cashew(ripe fruit w/ nut)						-						-
Cotton(seed cotton)						-						
Palm Fruit:	-	-	-	-	-	-	-	-	-	-	-	-
Oil Palm (Fresh Fruit Bunch)						-						-
Kaong(kernel)						-						-
Bromeliad(live plant w/ pot)						-						
Euphorbia(live plant w/ pot)						-						
Green cornstalk						-						
Rice hay(dried hays)												
Coconut Sap/Tuba												
MINOR NFICC's	-	-	-	-	-	-	-	-	-	-	-	-
Pili nut w/ shell						-						-
Coir(dried raw fiber)												
Jute(dried raw fiber)						-						
Kapok(seed kapok)						-						-
Maguey(dried raw fiber)						-						
Ramie(dried raw fiber)						-						
Salago(dried raw fiber)						-						
Chrysanthemum						-						

Appendix E. Reports

Provincial Report on Production (Other Crops Compiling System)

PANGASINAN : Volume of Production of Other NFICrops , January-March, 2011-2016

Crop	PRODUCTION (in MT)					
	2011F	2012F	2013F	2014F	2015F	2016F
Other NFICS* {a+b+c+d}	42.27	43.57	43.34	42.83	41.97	40.47
Semestral [a]	30.27	32.00	32.12	31.93	30.89	29.60
Pili nut						
Coir						
Jute						
Kapok	3.77	4.00	3.85	3.79	3.82	3.80
Maguey	1.42	1.38	1.45	1.43	1.43	1.40
Ramie						
Salago						
Chrysanthemum	-	-	-	-	-	-
Ornamentals (plants with pot)						
Cutflower(flower/flower with stem)						
Cuttings/Stem						
Gladiola	-	-	-	-	-	-
Ornamentals (plants with pot)						
Cutflower(flower/flower with stem)						
Cuttings/Stem						
Orchids	13.76	13.12	13.00	12.62	12.25	11.50
Ornamentals (plants with pot)	13.76	13.12	13.00	12.62	12.25	11.50
Cutflower(flower/flower with stem)	-	-	-	-	-	-
Cuttings/Stem	-	-	-	-	-	-
Dendrobium	4.98	5.12	5.20	5.04	5.00	4.50
Ornamentals (plants with pot)	4.98	5.12	5.20	5.04	5.00	4.50
Cutflower(flower/flower with stem)						
Cuttings/Stem						
Vanda	8.78	8.00	7.80	7.58	7.25	7.00
Ornamentals (plants with pot)	8.78	8.00	7.80	7.58	7.25	7.00
Cutflower(flower/flower with stem)						
Cuttings/Stem						
Roses	-	-	-	-	-	-
Ornamentals (plants with pot)						
Cutflower(flower/flower with stem)						
Cuttings/Stem						
Coconut leaves	1.21	1.50	1.52	1.54	1.43	1.40
Cogon	10.11	12.00	12.30	12.55	11.96	11.50
Annual [b]	5.99	6.10	6.24	6.15	6.07	5.90
Romblon						
Tiger Grass						
Banana Leaves	5.11	5.20	5.24	5.13	5.04	4.90
Laza/Tambo						
Nipa Sap/Wine	0.88	0.90	1.00	1.02	1.03	1.00
Three (3) Year Crop [c]	6.01	1.27	0.26	0.26	0.27	0.25
Anthurium						
Aster						
Asuzena						
Baby's Breath						
Carnation						
Daisy						
Gerbera						
Heliconia						
Ilang-ilang						
Sampaguita	0.03	0.03	0.03	0.03	0.04	0.03
Spraymum						
Statice						
Guinea Grass						
Napier Grass						
Castor Beans						
Sesame	0.04	0.04	0.05	0.05	0.04	0.04
Sorghum						
Buntal	5.94					
Pineapple Fiber						
African Palm Leaves						
Apatot						
Banaba						
Betel Nut						
Ikmo/Boyo						
Dahlia						
Dawa						
Flamingia						
Ginseng						
Ipil-Ipil Leaves		1.00				
Lagundi		0.20	0.18	0.18	0.19	0.18

Appendix F. Reports

Provincial Report on Area and Number of Bearing Trees (Other Crops Compiling System)

PANGASINAN : Volume of Production, Area Planted, Number of Bearing Trees, Density, and Yield of Other NFICS, January-December, 2011-2016

Crop	PRODUCTION (in MT)				AREA (ha)				Number of Bearing Trees			
	2013F	2014F	2015F	2016P	2013F	2014F	2015F	2016P	2013F	2014F	2015F	2016P
Semestral	58.20	56.75	54.41	51.40	28.30	27.42	27.26	26.25	987	940	935	935
Pili nut	-	-	-	-	-	-	-	-	-	-	-	-
Coir	-	-	-	-								
Jute	-	-	-	-	-	-	-	-				
Kapok	4.95	4.88	4.82	4.70	7.00	6.60	6.55	6.55	987	940	935	935
Maguey	2.91	2.85	2.80	2.58	8.00	7.58	7.58	7.00				
Ramie	-	-	-	-	-	-	-	-				
Salago	-	-	-	-	-	-	-	-				
Chrysanthemum	-	-	-	-	-	-	-	-				
Ornamentals (plants with pot)	-	-	-	-								
Cutflower(flower/flower with stem)	-	-	-	-								
Cuttings/Stem	-	-	-	-								
Gladiola	-	-	-	-	-	-	-	-				
Ornamentals (plants with pot)	-	-	-	-								
Cutflower(flower/flower with stem)	-	-	-	-								
Cuttings/Stem	-	-	-	-								
Orchids	33.44	31.79	30.50	28.22	2.30	2.24	2.23	2.10				
Ornamentals (plants with pot)	33.44	31.79	30.50	28.22								
Cutflower(flower/flower with stem)	-	-	-	-								
Cuttings/Stem	-	-	-	-								
Dendrobium	14.21	13.32	13.21	12.19	0.90	0.87	0.87	0.80				
Ornamentals (plants with pot)	14.21	13.32	13.21	12.19								
Cutflower(flower/flower with stem)	-	-	-	-								
Cuttings/Stem	-	-	-	-								
Vanda	19.23	18.47	17.29	16.03	1.40	1.37	1.36	1.30				
Ornamentals (plants with pot)	19.23	18.47	17.29	16.03								
Cutflower(flower/flower with stem)	-	-	-	-								
Cuttings/Stem	-	-	-	-								
Roses	-	-	-	-	-	-	-	-				
Ornamentals (plants with pot)	-	-	-	-								
Cutflower(flower/flower with stem)	-	-	-	-								
Cuttings/Stem	-	-	-	-								
Coconut leaves	4.60	4.69	4.33	4.40								
Cogon	12.30	12.55	11.96	11.50	11.00	11.00	10.90	10.60				
Annual	13.05	12.89	12.37	11.83	-	-	-	-				
Romblon	-	-	-	-	-	-	-	-				
Tiger grass	-	-	-	-	-	-	-	-				
Banana leaves	7.01	6.91	6.84	6.60								
Laza/Tambo	-	-	-	-	-	-	-	-				
Nipa Sap/wine	6.04	5.98	5.53	5.23								

Appendix G. CrPS Form 1- Farmer/Producer Collection Form

CrPS FORM 1

AUTHORITY:
This survey is authorized under Republic Act (RA) 10625.

CONFIDENTIALITY:
All data obtained herein shall be held STRICTLY CONFIDENTIAL, cannot be used for taxation, investigation, or law enforcement purposes.

Republic of the Philippines
PHILIPPINE STATISTICS AUTHORITY
Quezon City

CROPS PRODUCTION SURVEY

_________________ to _________________ 20_ _
Reference Period

PSA Approval No: **PSA-1720**

Expires on: **31 May 2018**

Province: ____________________________ ☐☐

Municipality: ____________________________ ☐☐

Page ____ of ____

CROP/ NAME OF FARMER/PRODUCER	VOLUME OF PRODUCTION in kilograms		AREA PLANTED/HARVESTED[1/] in hectares		NO. OF BEARING TREES/HILLS/VINES		Reason/s for Change
	Last Year	This Year	Last Year	This Year	Last Year	This Year	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
CROP:							
1							
2							
3							
4							
5							
TOTAL							
CROP:							
1							
2							
3							
4							
5							
TOTAL							
CROP:							
1							
2							
3							
4							
5							
TOTAL							
CROP:							
1							
2							
3							
4							
5							
TOTAL							
CROP:							
1							
2							
3							
4							
5							
TOTAL							

1/ area harvested for temporary crops; area planted for permanent crops

STATISTICAL RESEARCHER and FIELD SUPERVISOR IDENTIFICATION

1. NAME AND SIGNATURE OF STATISTICAL RESEARCHER: __________________________ **Contact Number:** _____________ **Date:** _________

2. NAME AND SIGNATURE OF FIELD SUPERVISOR: __________________________ **Contact Number:** _____________ **Date:** _________

Appendix H. CrPS Form 2- Provincial Summary Form

CrPS Form 2
Provincial Summary Form

Republic of the Philippines
PHILIPPINE STATISTICS AUTHORITY
Quezon City

CROPS PRODUCTION SURVEY

_________________ to _________________ 20_ _
Reference Period

Province: ___________________________ **Page** ____ of ____

CROP/ NAME OF MUNICIPALITY	VOLUME OF PRODUCTION in kilograms		AREA PLANTED/HARVESTED[1/] in hectares		NO. OF BEARING TREES/HILLS/VINES		Reason/s for Change
	Last Year	This Year	Last Year	This Year	Last Year	This Year	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
CROP:							
1							
2							
3							
4							
5							
TOTAL							
% CHANGE							
CROP:							
1							
2							
3							
4							
5							
TOTAL							
% CHANGE							
CROP:							
1							
2							
3							
4							
5							
TOTAL							
% CHANGE							
CROP:							
1							
2							
3							
4							
5							
TOTAL							
% CHANGE							
CROP:							
1							
2							
3							
4							
5							
TOTAL							
% CHANGE							

1/ area harvested for temporary crops; area planted for permanent crops

$\%\ CHANGE\ (compute\ separately\ for\ [1]\ small\ farms\ and\ [2]\ plantations):$

$Provincial\ \%\ CHANGE\ (by\ crop):$
$(w_s * \%\ CHANGE_1) + (w_p * \%\ CHANGE_2)$

$where:$
$w_s - weight\ for\ small\ farms$
$w_p - weight\ for\ plantations$
$\%\ CHANGE_1 - percent\ change\ for\ small\ farms$
$\%\ CHANGE_2 - percent\ change\ for\ plantations$

$Provincial\ estimate\ (by\ crop):$
$(Last\ Year\ Final\ Estimate) +$
$(Last\ Year\ Final\ Estimate * Provincial\ \%\ CHANGE)$

STATISTICAL RESEARCHER and FIELD SUPERVISOR IDENTIFICATION			
1. NAME AND SIGNATURE OF STATISTICAL RESEARCHER:	______________________	**Contact Number:** ____________	**Date:** ________
2. NAME AND SIGNATURE OF FIELD SUPERVISOR:	______________________	**Contact Number:** ____________	**Date:** ________

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