Crops Production Survey
(Other than Palay and Corn)

August 2005

CROP GROUPINGS

To facilitate submission of reports, the crops are grouped as follows:

1. Non-food, Industrial and commercial Crops
2. Vegetables and Root crops
3. Fruit Crops

SURVEY DESIGN

I. COVERAGE - all provinces except Batanes

II. SCOPE - depending on the crop, for temporary crops the data items include area harvested and production while for permanent crops these are production, area planted, and bearing trees.

III. SAMPLING METHODOLOGY

A. Domain: the sampling design is for the generation of data for the province.

B. Survey Design:

Indicators for level of changes come from small farms and plantation farms. Estimates for each type of farm are independently computed and then aggregated to generate the provincial estimate.

For small farms of **crops covered under Farm Price Survey and *non-Farm Price Survey crops but identified as priority crops of the province/region***, the survey employs two – stage sampling. Based on the volume of production, the top five producing municipalities were chosen as the primary sampling units. Five farmer-producers in each municipality were enumerated as secondary sampling units.

For small farms of **all other crops not covered under Farm Price Survey**, the survey still employs two – stage sampling. However, based on the volume of production, the top **two to three producing municipalities** were chosen as the primary sampling units. **Three farmer-producers** in each municipality were enumerated as secondary sampling units.

This scheme is implemented for each crop being covered. In this strategy, it is possible for a farmer-producer to be a respondent for several crops, which he plants and harvests.

For plantation farms, the suggested cut-off planted area (ha.) by crop and geographical area are as follows:

CROP	LUZON	VISAYAS	MINDANAO
1. Coconut	> 10	> 50	> 50
2. Sugarcane	> 20	> 5	> 20
3. Banana	> 10	> 10	> 100
4. Pineapple	> 5	> 5	> 100
5. Coffee	> 5	> 5	> 20
6. Mango	> 5	> 5	> 10
7. Rubber			> 15
8. Abaca	> 9	> 9	> 9
9. Cacao	> 5	> 5	> 20
10. Other crops	> 5	> 5	> 10

Based on the cut-off specified above, a maximum of 5 plantations shall be chosen for the whole province. The PASO shall determine the corresponding weight for the small farms and the plantation farms.

IV. DATA COLLECTION

A. Frequency:

Considering the huge number of crops to be covered, and to address the needs of the preparation of the Quarterly Report on the Performance in Agriculture, only the production data of the twenty major crops are estimated on a quarterly basis. Data on production, area and number of bearing trees of all other crops are generated on semestral basis.

To optimize the use of limited financial resources, this survey is conducted simultaneously with the February, May, August and November rounds of the Farm Price Survey (FPS). The FPS is a monthly survey conducted in the last ten days of each month.

A. Estimation Procedure:

Responses from respondents basically consist of estimates of actual levels in production, area and bearing trees. However, the overall percent changes shall be computed taking into account the contribution of small farms and large farms in the province. The concerned Provincial Agricultural Statistics Officer (PASO)/field staff shall determine weights of small farms and large farms/plantation based on their best judgment and assessment.

The first step is to compute for the total of the estimates of actual levels for each period (current and same period last year) separately for small farms and large farms/plantations. Percent change is then computed using the formula:

$$\%Change = \frac{\sum_{i=1}^{n} P_c - \sum_{i=1}^{n} P_p}{\sum_{i=1}^{n} P_p} x100$$

Where:

$\sum P_c$ -sum of the current period of sample farmers

$\sum P_p$ -sum of same period last year production of sample farmers

n -number of sample farmers

The resulting percent change of each type of farm, shall be given the corresponding weights as determined by the PASO. The sum of the weighted percent change for each type of farm shall be the over-all percent change for the province. Said percent change shall then be applied to the final estimates of the previous period to get the level of the current period. To compute for the current estimates on production, area and number of bearing trees for the province:

$$E_c = E_p \; x \left(1 + \frac{\% \; Change}{100} \right)$$

Where:

E_c -Current estimate on production/area/bearing trees

E_p -Previous estimate on production/area/bearing trees
i.e the base data

To illustrate, we tabulate the responses of the 5 farmers from the top five municipalities or a total of 25 responses. We separate the data of last year and this year of same period as follows.

Banana: Last Year Production of Small Farms, First Quarter 2001
Province: Leyte Municipality: Dulag

CROP/ NAME OF RESPONDENT/ MUNICIPALITY	PRODUCTION in kilograms	
	Last Year	This Year
(1)	(2)	(3)
CROP: __Banana_____		
1 Acosta, Edwin	50,125	52,200
2 Indic, Josephine	62,656	65,250
3 Pedos, Leandro	59,523	61,988
4 Adap, Ermilita	75,000	78,104
5 Tubi, Rufino	66,750	69,513
TOTAL	314,054	327,055
% CHANGE		

We compute the provincial total by adding up the municipal totals as follows:

Banana: Last Year Production of Small Farms, First Quarter 2001

Province: Leyte

CROP/ NAME OF RESPONDENT/ MUNICIPALITY	PRODUCTION in kilograms	
	Last Year	This Year
(1)	(2)	(3)
CROP: ____BANANA_____		
1 Dulag	314,054	327,055
2 Abuyog	188,901	208,325
3 Burauen	157,325	154,129
4 Ormoc City	68,606	59,521
5 Hilongos	59,835	63,281
TOTAL	788,721	812,311
% CHANGE		2.99

Then, compute for the percent change using the formula:

$$\%Change = \frac{\sum_{i=1}^{n} P_c - \sum_{i=1}^{n} P_p}{\sum_{i=1}^{n} P_p} x100$$

Where:

ΣP_c -sum of the current period of sample farmers

ΣP_p -sum of same period last year production of sample farmers

n -number of sample farmers

$$\text{Small Farms Percent Change } (\%_s) = \frac{812{,}311 - 788{,}721}{788{,}721} \times 100$$

$$= \frac{23{,}589}{788{,}721} \times 100$$

$$= 2.99082$$

We also do the process for the large farms/plantation as follows:

Banana: Last Year Production of Plantation Farms, First Quarter 2001

Province: Leyte

CROP/ NAME OF RESPONDENT/ MUNICIPALITY	PRODUCTION in kilograms	
	Last Year	This Year
(1)	(2)	(3)
CROP: ____BANANA_____		
1 Perez Fruits	3,351,996	3,419,036
2 Brillo Plantation	1,883,132	1,977,289
3 Javier Integrated Farms	1,724,868	1,655,873
4 Victorian Farms	1,041,625	979,127
5 Cordero Fruit Farms	658,620	659,279
TOTAL	8,660,241	8,690,604
% CHANGE	0.35060	

$$\text{Large Farms/Plantation Percent Change } (\%_p) = \frac{8{,}690{,}604 - 8{,}660{,}241}{8{,}660{,}241} \times 100$$

$$= \frac{30{,}363}{8{,}660{,}241} \times 100$$

$$= 0.35060$$

The weights of small farms and plantation farms as determined by the PASO with the corresponding computed percent change are as follows:

TYPE OF Farm	PERCENT CHANGE	Weights of Small Farm and Large Farms/ Plantation to Provincial Production
Small Farm	2.9908	0.10
Plantation	0.3506	0.90

Then, the overall percent change for the province taking into account the contribution of the small and large farms is computed as:

Provincial % Change = (0.10 X 2.9908) + (0.90 X 0.3506) = 0.61462

The above process is done in computing for the production, area and bearing trees. The current level estimate of these three data items for the province is computed as:

$$E_c = E_p \; x \left[1 + \frac{\% \; Change}{100} \right]$$

Where:

E_c -Current estimate on production/area/bearing trees

E_p -Previous estimate on production/area/bearing trees
i.e the base data

The banana production for Leyte January – March 2000 was 29,000,000 kilograms. If an increase in production is observed this year at 0.61%, then the estimate on production for January - March 2001 is 29,176,900 kilograms.

Determining the Weights of Small Farms and Large Farms

The submitted list of large farms/plantations with the corresponding area was used to determine the weights for the small farms and large farms/plantations. The contribution of area of the large farms to the total area of the province is the weight for the large farms/ plantations. The remaining portion would be for the small farms. The derived weights shall be applied for area and production.

Suppose the total area of large farms for province A is 1,313 hectares with the total area for the whole province of 1,459 hectares. The weights of the small and large farms is determined as follows:

$$\text{Weight of large farms} = \frac{1{,}313}{1{,}459} \times 100$$

$$= 90\%$$

$$\text{Weight of small farms} = \frac{1{,}459 - 1{,}313}{1{,}459}$$

$$= 10\ \%$$

REMINDERS ON WHAT TO SUBMIT:

FOR ROC FROM POCs:

Soft copy (diskette) of the Crop Monitoring System with accomplished worksheets on 1) preliminary for estimates of current quarter/semester and 2) final data of previous quarter/semester. For semestral and annual estimates, submission of final data is **immediately in the next quarter. This includes production, area, and bearing trees, where applicable.**

FOR CENTRAL OFFICE FROM POCs:

Hard copy (print out) of the accomplished worksheets submitted to ROC.

CSD worksheet

Quaterly/Semestral Crops Estimates

Filling up the CSD worksheet

Indicate the reference period in the space provided. The first space shall be for the first month of the quarter/semester and the second space for the last month of the quarter/semester. The estimate to be reported for the quarter/semester should cover for the said reference period regardless of the date of collection. That is, the estimate for the First Quarter should be for January to March even if the collection date is in February or May.

This worksheet could be used as 1) collection form and as 2) provincial summary. Note that we have 5 sample farmers in each municipality. Spell out the name of the province and the municipality in the space provided. As collection form, indicate in the space provided the name of the corresponding barangays of the sample-farmers. If all the sample farmers come from one barangay indicate "do".

The worksheet has eight columns subdivided into four to correspond to the information needed namely: crop, name of respondent, municipality, production, area, number of bearing trees and reasons for change. This form can accommodate 3 crops.

Col. 1 **CROP/NAME OF RESPONDENT/MUNICIPALITY.** The CROP refers to the name of crop covered. NAME OF RESPONDENTS are the names of the sample-farmers interviewed, if the worksheet serves as the collection form. Otherwise, if the worksheet is treated as the provincial summary, this column shall contain the sample municipalities. Either used as collection form or provincial summary, five rows shall be used for the five samples (5 sample-farmers, in 5 sample-municipalities or a total of 25 samples).

Col. 2 and col. 3 **PRODUCTION** shall be in kilograms. Two years shall be asked. Col. 2 **Last Year** refers to the actual level of the sample-farmer for its production last year, same period. Col. 3 **This Year** shall be for the actual production level for this year of the current quarter. If we estimate for the first quarter, then, the levels to be asked should refer to the first quarter last year and this year. These shall be in kilograms.

Col. 4 and col. 5 **AREA.** Depending on the type of crop, area harvested is taken for temporary crops while area planted for permanent crops. The information for area shall be in hectare. For permanent crops, area shall include the area planted to newly planted, bearing and non-bearing trees. As in production, actual levels of the sample-farmers should be taken for two year, that is, Col. 4 **Last Year** and col. 5 **This Year** for same period.

Col. 6 and col. 7 **NUMBER OF BEARING TREES** shall be filled up for permanent crops. This shall only include bearing trees or trees that have borne fruit but not necessarily bearing this quarter. As in production and area, actual levels of the sample-farmers should be taken for two year, that is, Col. 6 **Last Year** and col. 7 **This Year** for same period.

Col. 8 **REASONS FOR CHANGE** shall explain/justify the changes in levels this year as against last year. **Events/calamity and pest and diseases should be specified and with their corresponding date of occurrence and stage of growth of the crop referred to.**

The **TOTAL** after each five rows is simply the total of the five responses. This corresponds to the five farmer-samples and sample-municipalities. Compute for the total in each year and data items. The **% CHANGE** row shall be used to compute for the percent change by 1) farm type (small farms and plantation farms) and the 2) provincial % change.

1) compute separately by type of farm and by crop: **1)** small farms **2)** plantation farms

   % Change = (total this year / total last year) - 1 x 100

2) compute the provincial % change by crop:

   provincial % change = (wt_{sf} x % change) + (wt_{p} x % change)

   where:

   wt_{sf} - weight for **s**mall **f**arms

   wt_{p} - weight of **p**lantation farms

3) compute for the provincial estimate by crop:

   Provincial estimate by crop = (Last year final estimate) x (provincial % change)

ALL ACCOMPLISHED COLLECTION FORMS SHALL BE FILED AT THE PROVINCES FOR QUICK REFERENCE. AS IN OTHER OFFICIAL DOCUMENTS, THESE SHALL BE DISPOSED ONLY AFTER FIVE YEARS.