Estimation Procedures for the 2002 Census of Agriculture

To come up with estimates of farm characteristics at the provincial level, the following formula was used:

Basic Weight

$$Y'_m = Y_{1mc} + \sum_{h=2}^{3} \frac{N_{mh}}{n_{mh}} Y_{1mh} + Y_{2m}$$

where:

h = 2, 3, refers to the number of strata
m = 1, 2,….,P, refers to city/municipality in a province
j = 1, 2, 3, …,k_m, refers to the jth non-sample barangay in a city/municipality

Y'_m = estimate of any farm characteristics in a city/municipality

Y_{1mc} = the characteristics of the farms which are household-based in the certainty barangay (Stratum 1) of a city/municipality

Y_{1mh} = the characteristics of the farms, which are household-based, in the hth stratum of a city/municipality

N_{mh} = total number of barangays in the hth stratum in a city/municipality

n_{mh} = number of sample barangays in the hth stratum in a city/municipality

$$Y_{2m} = Y_{2mc,\ est.} + \sum_{h=2}^{3} Y_{2mh,\ est.} + \sum_{j=1}^{k} Y_{2mj}$$

Y_{2m} = the sum of the total characteristics of the establishment-based farms in a city/municipality

$Y_{2mc,\ est.}$ = the characteristics of the establishment-based farms taken from the certainty barangay (Stratum 1) of a city/municipality

$Y_{2mh,\ est.}$ = the characteristics of the establishment-based farms in the hth stratum of a city/municipality, where h which refers to strata 2 and 3

Y_{2mj} = the characteristics of the farms, which are establishment-based, in the *j^{th}* non-sample barangay of a city/municipality

Weight Adjustment Factor

For non-certainty barangays which were not enumerated

$$Al_{mh}{}' = \frac{n_{mh}}{n'_{mh}}$$

where:

n_{mh} = number of sample barangays in the *h^{th}* stratum in a city/municipality

n'_{mh} = number of sample barangays actually enumerated in the *h^{th}* stratum in a city/municipality

Final Weight

$$Y_m{}'' = Y_{1mc} + \left[\left(\sum_{h=2}^{3} \frac{N_{mh}}{n_{mh}} Y_{1mh} \right) \times Al'_{mh} \right] + Y_{2m}$$

To come up with the estimates of farm characteristics at the provincial level, the following formula was applied:

$$Y' = \sum_{m=1}^{P} Y_m''$$