Small Area Estimation of the Provincial Mean One-day Per Capita Food Consumption

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This study aimed to estimate the mean one-day per capita consumption of cereals and cereal products; fish, meat and poultry; and vegetables of households at the provincial level. The use of small area estimation technique specifically, the empirical best linear unbiased predictor (EBLUP) was employed since the direct estimates were found to be unreliable.

The estimates were evaluated based on measures of accuracy, precision and reliability as measured by their bias, mean square error and coefficient of variation, respectively. Minimum values of these measures were desired and specifically the coefficient of variation must be at most 10% for the estimate to be considered reliable.

The direct estimates came from the 6th National Nutrition Survey conducted in 2003 while the auxiliary variables used in modeling process came from the 2000 Census of Population and Housing and some administrative data sources. As expected, majority of the direct estimates were found to be unreliable at the provincial level because of the small number of observations used per province. Hence, small area estimation procedure was considered in estimating the parameters of interest at the provincial level.

Results showed that by employing the small area estimation technique, specifically the EBLUP procedure there will be more reliable provincial estimates that can be obtained for the mean one-day per capita food consumption such as that of cereals and cereal products; fish, meat and poultry; and vegetables of households.

Keywords: small area estimation, provincial mean one-day per capita food consumption

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