



Did you know that...

Cagayan de Oro City is the Least Poor Among the Cities and Municipalities in Region 10; But who is the poorest?

2003 Small Area Poverty Estimates

Cagayan de Oro City posted the least in poverty incidence in Northern Mindanao based on Small Area Estimates (SAE) conducted by the National Statistical Coordination Board thru the **“2003 Intercensal Updating of Small Area Poverty Estimates Project”** funded by the World Bank. Based on the said estimates, Cagayan de Oro City had a poverty incidence (FGT 0) of 15.50% with a Standard Error (SE) of 2.35; that is to say that 15.50 % of the City’s population has an income below the poverty line for 2003. Based on official statistics, the poverty line for Misamis Oriental is set at PhP 11, 593.88 per person, per year, in 2003.

Based on the 2003 Small Area Poverty Estimates, the top 20 poorest cities and/or municipalities in the region, based on poverty incidence (FGT 0), are:

Table 1. Top 20 Poorest Municipalities based on the 2003 Small Area Poverty Estimates.

City/Municipality	Province	FGT 0 (%)	SE	90% Confidence		Rank
				Min	Max	
TANGCAL	Lanao del Norte	86.72	4.83	78.77	94.67	1
POONA PIAGAPO	Lanao del Norte	81.68	4.26	74.67	88.69	2
TAGOLOAN (LDN)	Lanao del Norte	77.89	7.00	66.38	89.41	3
MAGSAYSAY	Lanao del Norte	75.06	3.43	69.42	80.70	4
NUNUNGAN	Lanao del Norte	74.27	4.42	67.00	81.54	5
MATUNGAO	Lanao del Norte	74.04	4.81	66.13	81.95	6
PANTAO RAGAT	Lanao del Norte	74.03	5.39	65.16	82.90	7
SALVADOR	Lanao del Norte	73.67	5.04	65.38	81.96	8
SAPAD	Lanao del Norte	72.42	5.42	63.50	81.34	9
CONCEPCION	Mis. Occ.	72.36	4.47	65.01	79.71	10
SULTAN NAGA DIMAPORO	Lanao del Norte	72.27	3.87	65.90	78.64	11
MUNAI	Lanao del Norte	72.00	4.79	64.12	79.88	12
DON VIC. CHIONGBIAN	Mis. Occ.	71.99	6.21	61.77	82.21	13
PANTAR	Lanao del Norte	67.20	5.49	58.17	76.23	14
BONIFACIO	Mis. Occ.	64.09	4.21	57.16	71.02	15
MAGSAYSAY (LINUGOS)	Mis. Or.	63.42	4.34	56.28	70.56	16
BALOI	Lanao del Norte	63.27	5.63	54.01	72.53	17
TALAKAG	Bukidnon	62.86	4.92	54.77	70.95	18
KAPATAGAN	Lanao del Norte	62.42	3.85	56.09	68.75	19
MALITBOG	Bukidnon	60.88	7.11	49.18	72.58	20

Overview on Poverty Estimates

Prior to 2003, the official poverty statistics (i.e. poverty incidence, income gap, poverty gap, and poverty severity) were being generated only at the national and regional levels with urban-rural disaggregation. Per NSCB Resolution No. 1 Series of 2003, and in response to user needs for lower level disaggregation, poverty statistics were brought down to provincial levels. However, province level statistics were still deemed to be too broad in targeting social issues, like poverty, hence, Small Area Estimation Methods were explored by the NSCB thru World Bank funding to estimate poverty at the municipal level.

Official Poverty Estimates vs. Small Area Poverty Estimates

Users of poverty statistics has to know that official poverty statistics is estimated based on the Family Income and Expenditure Survey (FIES). In official poverty estimates, the families and individuals (in the FIES) whose income fall below the poverty threshold are considered poor and their total number relative to the total population is referred to as the poverty incidence. Note that the estimate for the provinces is based on a sample size which, in some instances, may not be sufficient enough to produce reliable results. Hence, errors must be considered.

Small Area Estimates, on the other hand, is a model-based approach to measuring poverty. Per capita income is modeled in the survey and the coefficients of the model are applied unto the Census. Poverty estimates are based on simulated values based on the coefficients of the model and the Census variables. Inherent to every model is the error term, or that which the model cannot explain.

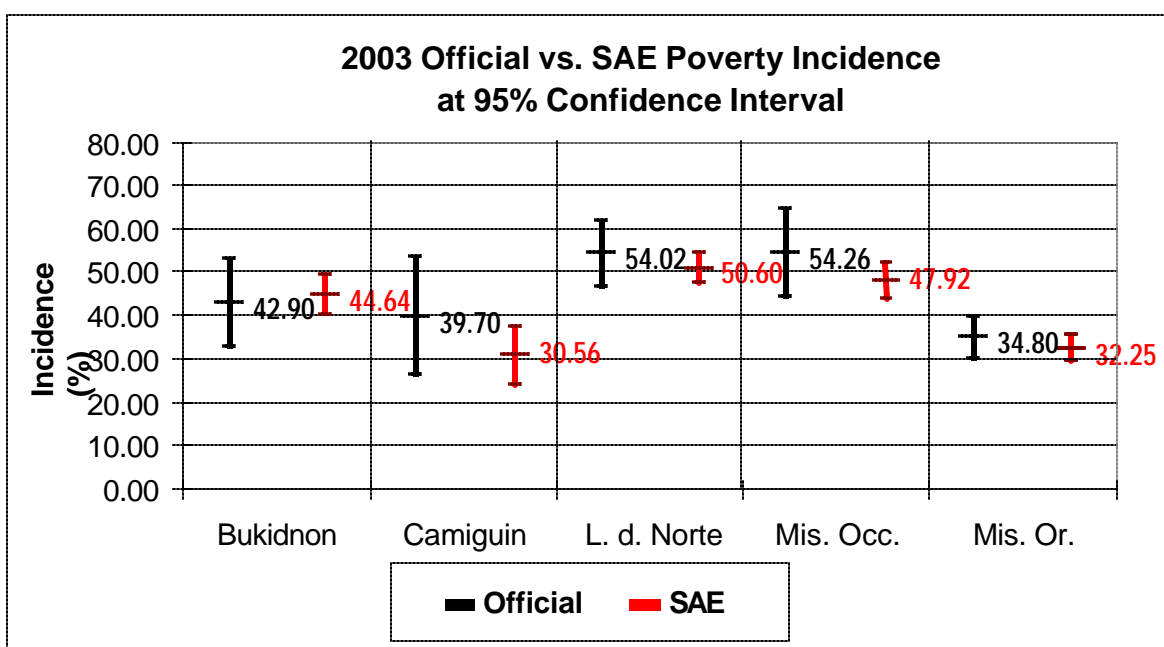
Considering that the official poverty statistics is derived thru a different approach compared to the Small Area Poverty Estimates, differences in results are expected.

Table 2. 2003 Official Poverty Statistics, by Province.

Province	Poverty Incidence	Standard Error	95% Confidence Interval	
			Min	Max
Bukidnon	42.90	5.12	32.86	52.93
Camiguin	39.70	6.87	26.23	53.17
Lanao del Norte	54.02	3.91	46.35	61.68
Misamis Occidental	54.26	5.26	43.96	64.56
Misamis Oriental	34.80	2.49	29.91	39.68

Table 3. 2003 Small Area Poverty Estimates, by Province

Province	Poverty Incidence	Standard Error	95% Confidence Interval	
			Min	Max
Bukidnon	44.64	2.33	40.07	49.20
Camiguin	30.56	3.41	23.87	37.24
Lanao del Norte	50.60	1.68	47.30	53.89
Misamis Occidental	47.92	2.24	43.52	52.31
Misamis Oriental	32.25	1.47	29.36	35.13



Official poverty estimates (2003) show that in terms of (mean) poverty incidence, Misamis Occidental is poorer at 54.26% than Lanao del Norte at 54.02% (Table 2). However, considering the error of the estimates, the two values are not significantly different at 90, 95 and 99 level of confidence. It is to be interpreted that the difference of the values are only due to chance or due to sampling and other errors. What is certain, at 95% confidence level, is that Misamis Oriental has a lower poverty incidence at 34.80% compared to Lanao del Norte and Misamis Occidental. However, at 95% confidence level, it cannot be ascertained that Misamis Oriental, at 34.80%, has a significantly lower poverty incidence compared to Bukidnon, at 42.90%, and/or Camiguin (at 39.70%). Moreover, at 95% level of confidence, it cannot be ascertained that the poverty incidences of Bukidnon, Camiguin, Lanao del Norte and Misamis Occidental are significantly different from each other, though their mean averages differ.

Small Area Estimates (Table 3) show a more precise poverty incidences considering that its errors are lower compared to the official survey-based estimate. Based on SAE, Misamis Oriental (32.25%) and Camiguin (30.56%) have the lowest poverty incidences which are significantly lower compared to Bukidnon (44.64%), Lanao del Norte (50.60%) and Misamis Occidental (47.92%) at 95% confidence level. However, at the same level of confidence, it cannot be ascertained if the poverty incidence of Camiguin is significantly different to Misamis Oriental. Moreover, at the same level of confidence, it cannot also be ascertained whether the poverty incidences of Bukidnon, Lanao del Norte and Misamis Occidental are significantly different.

It must, however, be noted that SAEs are not intended to replace the survey-based estimates. The province (and region) level estimates of the SAEs are derived to verify if at the said subnational levels (province and region), the Small Area Poverty Estimates are within an acceptable range relative to the official survey-based estimates. Based on the comparison (Tables 2 and 3), the Small Area Poverty Estimates are within the 95% confidence interval of the survey-based (official) estimate and hence are acceptable. With the province-level aggregation verified to be acceptable, the Municipal/City levels are then considered to be also acceptable. The verification of the SAEs at a level comparable with the survey-based estimates is necessary even when the Municipal/City level SAEs shows acceptable errors.

The Municipal/City level Small Area Poverty Estimates (Table 1) showed that, based on the mean estimates of poverty incidences, Tangcal, Lanao del Norte has the highest poverty incidence at 86.72%. However, even among the top 20 poorest Municipalities, their poverty incidences are not significantly different at 90% confidence level. What can be ascertained is that Cagayan de Oro City has a poverty incidence (15.50%) that is significantly lower compared with the rest of the 91 Cities and Municipalities in the region. Its poverty incidence however, is not significantly difference (at 90% confidence level) compared to Mambajao, Camiguin at 23.57% with a standard error that has a coefficient of variation of 20.20%.

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