



TECHNICAL NOTES ON THE ESTIMATION OF THE POVERTY STATISTICS AMONG THE BASIC SECTORS

I. Background

The estimation of the poverty statistics among the basic sectors was spearheaded by the former National Statistical Coordination Board (NSCB), now a part of the Philippine Statistics Authority (PSA), through a project with funding assistance from the United Nations Development Programme (UNDP) and in collaboration with the National Anti-Poverty Commission (NAPC) in 2004-2005. This initiative was in response to the demands to generate lower level and sectoral poverty statistics. The estimation methodology for the generation of poverty statistics among the basic sectors was approved per PSA Board Resolution No. 1, Series of 2017-132 (formerly known as NSCB Resolution No. 11, Series of 2007), *Approving of the Methodology for the Generation of Poverty Statistics for the Basic Sectors*.

Per Republic Act 8425 or the Social Reform and Poverty Alleviation Act, “poor” refers to individuals and families whose income fall below the poverty threshold as defined by the National Economic and Development Authority (NEDA) and/or cannot afford in a sustained manner to provide their minimum basic needs of food, health, education, housing and other essential amenities of life. Further, RA 8425 defined the basic sectors as the disadvantaged or marginalized sectors of the Philippine society, namely:

1. Farmer-peasant;
2. Artisanal fisherfolk;
3. Workers in the formal sector and migrant workers;
4. Workers in the informal sector;
5. Indigenous peoples and cultural communities;
6. Women;
7. Differently-abled persons;
8. Senior citizens;
9. Victims of calamities and disasters;
10. Youth and students;
11. Children;
12. Urban poor;
13. Cooperatives; and
14. Non-government organization.

In the previous releases, only nine out of the 14 basic sectors have sectoral and income data from the Family Income and Expenditure Survey (FIES) merged with the January round of the Labor Force Survey (LFS) conducted in the succeeding year of the reference period, which are the data sources for the computation of poverty statistics among the basic sectors. The nine sectors are: 1) women, 2) youth, 3) children, 4) senior citizens, 5) individuals residing in urban areas, 6) migrant and formal sector workers, 7) farmers, 8) fishermen and 9) self-employed and unpaid family workers as proxy indicator for the workers in the informal sector. Recognizing the need to remain responsive to the needs of the stakeholders and improve the official statistics released by PSA, poverty statistics for individuals residing in rural areas and persons with disability were generated for the first time given the adoption of larger sample size from the 2013 Master Sample and the inclusion of the disability identifiers using the Washington Group Short Set on Functioning in the January round of the LFS.



Estimation Methodology

A. Data Source

For the estimation of poverty and subsistence incidence, the FIES was utilized for classifying families as poor or non-poor and food poor or non-food poor, respectively, while the LFS was used to classify family members into sectors with disaggregation at the national and regional levels. Both FIES and LFS follow the Integrated Survey of Households (ISH) sampling scheme where the sample families in the FIES are generally the same sample families in the LFS.

B. Concepts and Definitions

The scope and definitions of the sectors were adopted from RA 8425, whenever possible. Further, in response to the data needs of the Sustainable Development Goals (SDGs), particularly in eradicating poverty across all dimensions and reducing inequalities, poverty statistics among individuals residing in rural areas and persons with disability were added.

Below are the operational definition and rationale of each sector that were considered:

Sector	Operational Definition	Source/Rationale
Women	An individual whose declared sex is female.	-
Children	Individuals below 18 years old	Based on RA 7610, <i>Special Protection of Children Against Abuse, Exploitation and Discrimination Act</i> , a child refers to an individual whose age ranges from 0 to less than 18 years old.
Youth	Individuals 15 to 30 years old	Youth refers to persons fifteen (15) to thirty (30) years old based on RA 8044, <i>Youth in Nation Building Act</i> .
Senior Citizens	Individuals 60 years old and above	Based on RA 8425, Senior Citizens or "elderly" shall mean all resident citizens of the Philippines who are at least sixty (60) years old.
Urban Poor	An individual residing in an urban area who belongs to a poor family or whose per capita income falls below the official poverty threshold. Urban classification used in the estimates for 2015 and 2018 is based on the 2015 PopCen.	Based on RA 8425, urban poor refers to individuals or families residing in urban centers and urbanizing areas whose per capita income or combined household income divided by family size falls below the poverty threshold as defined by the National Economic and Development Authority and/or cannot afford in a sustained manner to provide

Sector	Operational Definition	Source/Rationale
		their minimum basic needs of food, health, education, housing and other essential amenities of life.
Rural Poor	An individual residing in a rural area who belongs to a family categorized as poor or with per capita income falling below the official poverty threshold.	For SDG Monitoring, the Philippines committed to achieve the SDGs, which includes Goal 1, Target 1.2, By 2030, reduce at least by half the proportion of men, women and children of all ages living in poverty in all its dimensions according to national definitions. <i>SDG Indicator 1.2.1.4 Proportion of population living below the national poverty line, by geographical location</i>
Migrant and Formal Sector Workers	Migrant workers are individuals who are overseas contract workers (OCWs). and Formal sector workers are employed persons working for private establishments and government organizations and corporations.	Based on RA 8425, workers in the formal sector refer to workers in registered business enterprises who sell their services in exchange for wages and other forms of compensation. Based on RA 8042, a migrant worker refers to a person who is to be engaged or has been engaged in a remunerated activity in a state of which he or she is not a legal resident; to be used interchangeably with overseas Filipino worker. Due to data limitations, proxy indicator coming from LFS microdata was used to operationally generate poverty statistics among migrant and formal sector workers.
Farmers	Employed individuals 15 years old and over whose primary occupation is farming and plant growing or animal production. In the 2012 Philippine Standard Occupational Classification (PSOC), which was also adopted in the January 2019 LFS, the	Based on RA 8425, farmers and landless rural workers refer to those who are engaged directly or indirectly in small farms and forest areas, and workers in commercial farms and plantations, whether paid or unpaid, regular or season-bound. These shall include, but are not limited to:

Sector	Operational Definition	Source/Rationale
	<p>following occupations were considered:</p> <p>a) Under Major Occupation 6 – Skilled Agricultural, Forestry and Fishery Works</p> <ul style="list-style-type: none"> i) Market gardeners and crop growers; ii) Animal producers; iii) Mixed crop and animal producers; iv) Subsistence crop farmers; v) Subsistence livestock farmers; and vi) Subsistence mixed crop and livestock farmers. <p>(Note: These are minor occupation groups.)</p> <p>b) Under Major Occupation 9 – Elementary Occupations</p> <ul style="list-style-type: none"> i) Crop farm laborers; ii) Livestock farm laborers; iii) Mixed crop and livestock farm laborers; and iv) Garden and horticultural laborers. <p>(Note: These are unit occupation groups.)</p>	<ul style="list-style-type: none"> 1. Small-scale farmers who own or who are still amortizing lands that are not more than three (3) hectares, tenants, leaseholders, and stewards; and 2. Rural workers who are either wage earners, self-employed, or unpaid family workers directly and personally engaged in agriculture, small-scale mining, handicrafts, and other related farm and off-farm activities.
Fishermen	<p>Employed individuals 15 years old and over whose primary occupation is fishing.</p> <p>In the 2012 Philippine Standard Occupational Classification (PSOC), which the January 2019 LFS adopted, the following occupations were considered:</p> <p>a) Under Major Occupation 6 – Skilled Agricultural, Forestry and Fishery Works</p> <ul style="list-style-type: none"> i) Fishery workers; and ii) Subsistence fishers <p>(Note: These are minor occupation groups.)</p>	<p>Based on RA 8425, artisanal fisherfolk is defined as municipal, small scale, or subsistence fishermen who use fishing gears which do not require boats or which only require boats below three tons. However, due to data limitations, proxy indicator coming from LFS microdata was used to operationally define fishermen.</p>

Sector	Operational Definition	Source/Rationale
	b) Under Major Occupation 9 – Elementary Occupations i) Fishery and aquaculture laborers (Note: This is a unit occupation group.)	
Self-employed and Unpaid Family Workers	Employed individuals 15 years old and over who are either self-employed or worked without pay on family owned business.	Based on RA 8425, workers in the informal sector refer to poor individuals who operate businesses that are very small in scale and are not registered with any national government agency and to the workers in such enterprises who sell their services in exchange for subsistence level wages and other forms of compensation. However, due to data limitations, proxy indicator coming from LFS microdata was used to operationally define informal sector workers, i.e., self-employed and unpaid family workers.
Persons with Disability	Persons with disability are those who experienced a lot of difficulty or who cannot do at all any of the following: a) Seeing even if wearing eye glasses; b) Hearing even if using hearing aid; c) Walking or climbing steps; d) Remembering or concentrating; e) Self-care; and f) Communicating. The Washington Group on Disability Statistics recommended this cut-off for disability.	Based on RA 8425, persons with disabilities refer to those who have long-term physical, mental, intellectual or sensory impairments which in interaction with various barriers may hinder their full and effective participation in society on an equal basis with others.

C. Assumptions of the estimation procedure

In the estimation of poverty and subsistence incidence for the basic sectors, the following assumptions are made:

- a) Poverty is a characteristic of the family. Thus, if a family has been classified poor, then all members of the family will be counted as poor. In other words, a family cannot have poor and non-poor members; either all members are poor or all members are non-poor.
- b) Basic sectors are not mutually exclusive, i.e., there are overlaps among sectors, which means an individual can belong to two or more sectors (e.g., women and children, women and senior citizens, youth and individuals residing in urban areas, etc.).
- c) Individual weights from the LFS were used in the estimation of the poverty statistics among the basic sectors.

D. Estimation of poverty and subsistence incidence

Estimated total population of the sector is based on the estimated totals provided for in the FIES and LFS. Estimating both for the numerator and denominator, a ratio type estimator was used:

$$\text{Poverty Incidence in region } d = \frac{\sum_{hijkl} W_{hijkl} * I_{hijk} * X_{hijkl}}{\sum_{hijkl} W_{hijkl} * X_{hijkl}}$$

$$\text{Subsistence Incidence in region } d = \frac{\sum_{hijkl} W_{hijkl} * J_{hijk} * X_{hijkl}}{\sum_{hijkl} W_{hijkl} * X_{hijkl}}$$

where, for example, on farmers

W_{hijkl} = weight of l^{th} individual in the k^{th} family in the j^{th} EA in the i^{th} sample barangay in stratum h in region d

I_{hijk} = Identifies the individual belonging to poor and non – poor families
 = $\begin{cases} 1 & \text{if the } k^{\text{th}} \text{ family in the } j^{\text{th}} \text{ EA in the } i^{\text{th}} \text{ sample barangay in stratum h is poor} \\ 0 & \text{if the } k^{\text{th}} \text{ family in the } j^{\text{th}} \text{ EA in the } i^{\text{th}} \text{ sample barangay in stratum h is not poor} \end{cases}$

J_{hijk} = Identifies the individual belonging to food poor or non-food poor families
 = $\begin{cases} 1 & \text{if the } k^{\text{th}} \text{ family in the } j^{\text{th}} \text{ EA in the } i^{\text{th}} \text{ sample barangay in stratum h is food poor} \\ 0 & \text{if the } k^{\text{th}} \text{ family in the } j^{\text{th}} \text{ EA in the } i^{\text{th}} \text{ sample barangay in stratum h is not food poor} \end{cases}$

X_{hijkl} = Identifies the sector where the individual belongs $\left\{ \begin{array}{l} 1 \text{ if the } l^{\text{th}} \text{ individual in the } k^{\text{th}} \text{ family in the } j^{\text{th}} \text{ EA in the } i^{\text{th}} \text{ sample barangay in region d is a farmer} \\ 0 \text{ if the } l^{\text{th}} \text{ individual in the } k^{\text{th}} \text{ family in the } j^{\text{th}} \text{ EA in the } i^{\text{th}} \text{ sample barangay in stratum h in region d is not a farmer} \end{array} \right.$