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Vulnerability to Poverty in the Philippines: An Examination of Trends from 2003 to 2015

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**Vulnerability to Poverty in the Philippines:
An Examination of Trends from 2003 to 2015**

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Outline

1. Introduction

- Background: Poverty and Vulnerability
- Policy interventions for the Poor
- Research Objective and Methodology

2. Measuring and Analyzing Vulnerability

- FIES 2003-2009 Panel Results
- Trends in Vulnerability
- Profiling of Vulnerable Households/Individuals

3. Policy Issues

1.1 Poverty and Vulnerability

➤ Reduction of poverty is at the heart of the development agenda both nationally and globally (especially in the wake of the SDGs)

➤ **Vulnerability to poverty** should also be examined and given policy attention

- ❑ Poor households likely to stay poor
- ❑ Non-poor households also at risk of becoming poor

Poverty Transition Matrix (in Percent of Households in 2003): 2003 - 2009

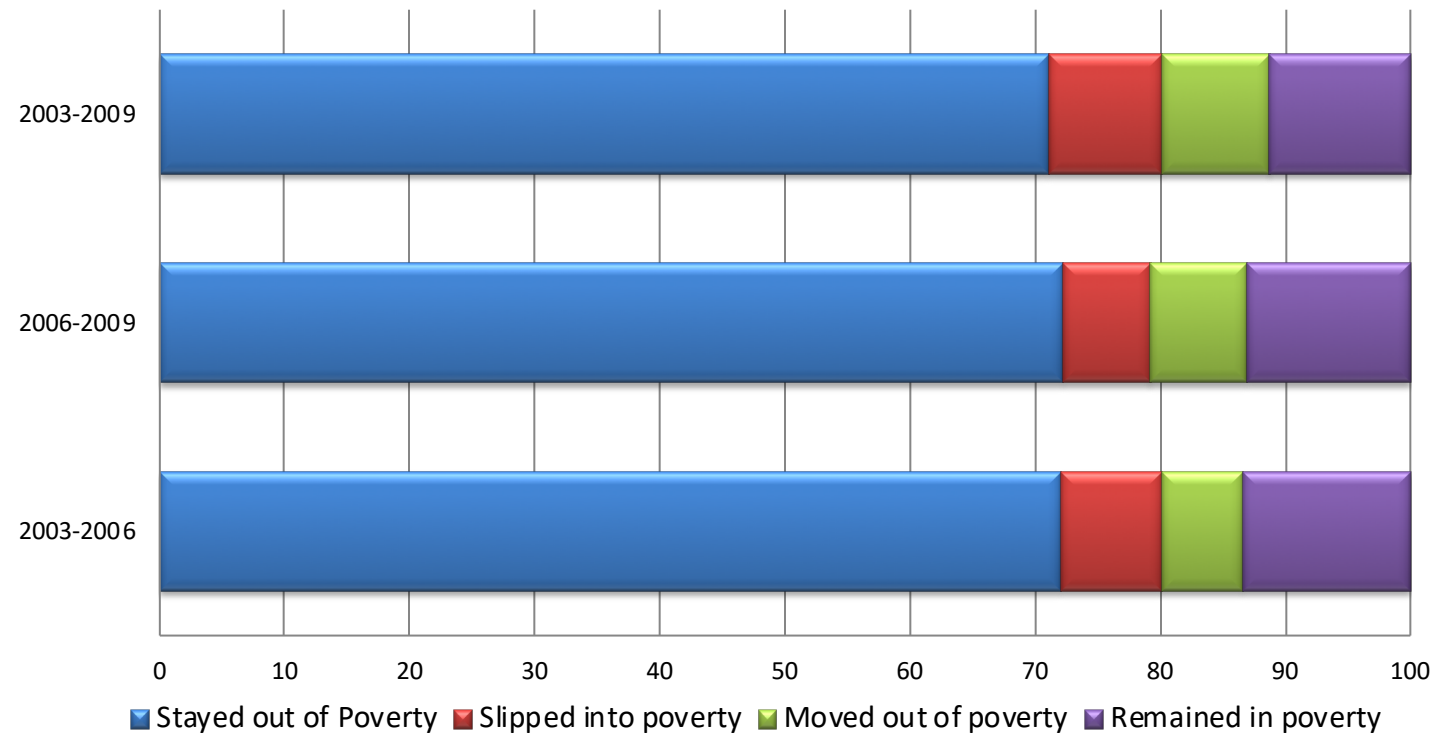
Poverty Status 2003	Poverty Status 2009				
	Food-poor	Poor but not Food-poor	Near Poor	Rest of Households	Total
Food poor	3.04	2.52	1.19	1.24	7.99
Poor but not Food Poor	2.27	3.45	2.16	3.98	11.86
Near Poor	1.12	2.70	1.97	4.46	10.24
Rest of Households	1.12	4.11	4.93	59.75	69.91
Total	7.55	12.78	10.24	69.42	100.00

Source: Calculations by Reyes and Albert (2018) from FIES 2003-2009 panel

1.1 Poverty and Vulnerability

➤ In PH, a huge % of HHs move in and out of poverty (Reyes and Albert, 2018):

Poverty Dynamics of Households: 2003 – 2006; 2006-2009 and 2003-2009 (as a % of Households in Base Year)



➤ Information on who is poor today should be a guide about those who will be poor next year only if people are persistently poor

Source: Calculations from FIES 2003-2009 panel

1.2 Policy interventions for the Poor

PREVENTIVE:
 Programs such as social protection that build resilience and/or reduce risks of becoming poor

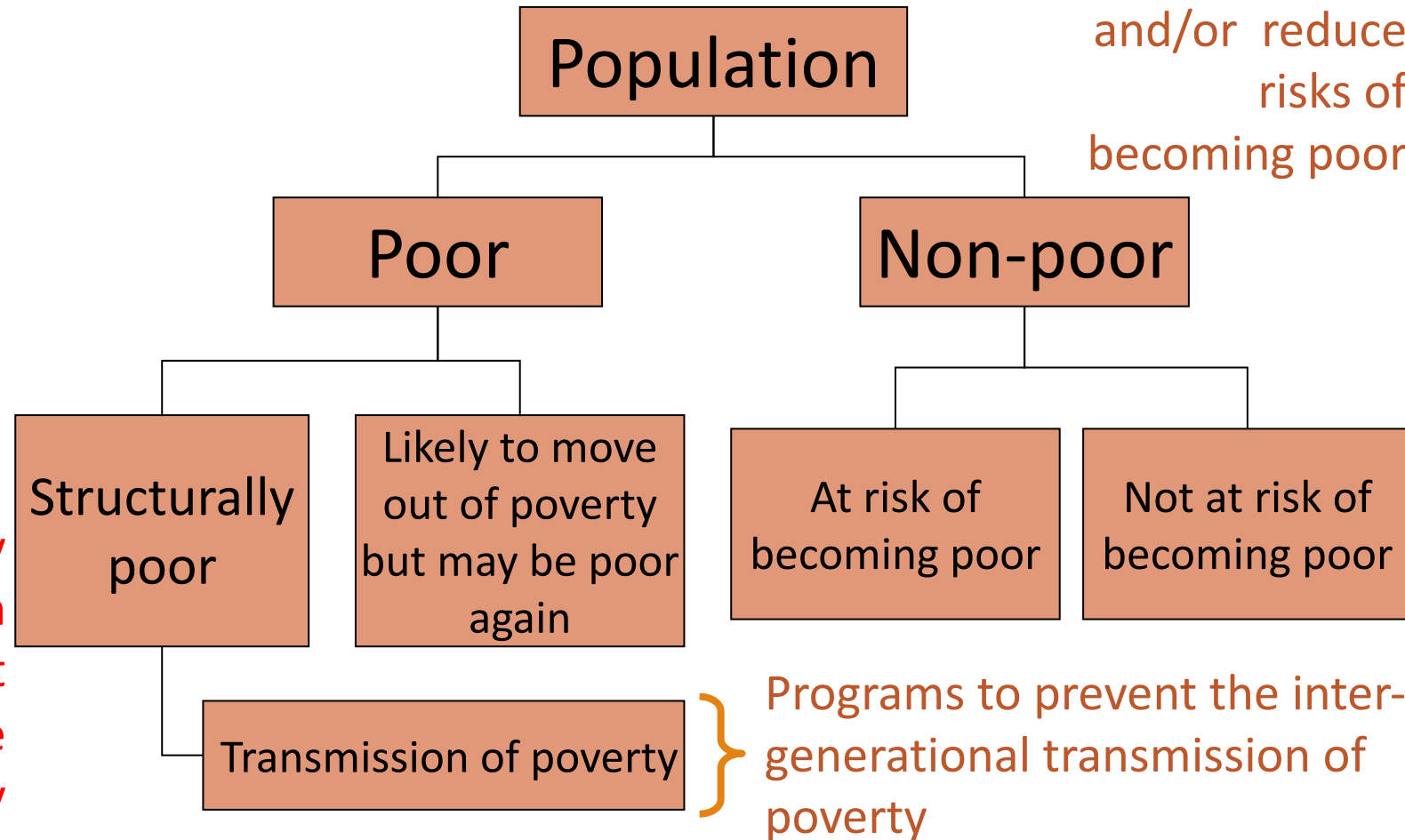
POVERTY like a DISEASE.

Approaches to problem:

a) CURATIVE
 (treating the sick)

b) PREVENTIVE
 (treating those at risk of getting sick)

CURATIVE: Poverty alleviation programs that mitigate adverse effects of poverty



1.3 Research Objectives

- **Obtain estimates of vulnerability rates** for 2003, 2006, 2009, 2012, and 2015 based on per capita income data and official poverty lines
- **Profile households that are vulnerable to income poverty**, with special attention to demographic and socio-economic characteristics
- **Provide policy recommendations** for building resilience to welfare risks for households, communities, etc.

1.4 Literature Review

- Many faces /senses of vulnerability (Brown, 2017)
- Natural and social rootedness of vulnerability (Farington, 2002)
- Measurements of vulnerability to poverty: Vulnerability has no universally accepted defn, but it refers to exposure to contingencies and stress, and difficulties in coping with them.
- ❑ **Welfarist Approach** (Ligon & Schechter, 2003; Elbers & Gunning, 2003)
- ❑ **Expected Poverty Approach** (Ravallion, 1998; Chaudhuri et al., 2002; Kamanou & Morduch, 2004)
- ❑ **Axiomatic Approach** (Calvo and Dercon 2005, 2007, 2013)

1.4 Literature Review (cont'd)

➤ Studies on vulnerability in Philippines:

- ❑ **Panel data examination** : (a) 1997 FIES and 1998 APIS (Datt and Hoogeveen, 2000; Tabunda and Albert, 2002) (b) 2003-2006-2009 FIES panel data (e.g., Reyes et al., 2010; Reyes et al., 2011; Albert *et al.*, 2015; Reyes and Albert, 2018) ;
- ❑ **Cross Section analysis** looking at FIES (Albert *et al.*, 2007; Albert and Ramos, 2010; Mina and Imai , 2016; Mina and Reyes, 2017)

1.4 Literature Review (cont'd)

Framework for Analyzing Vulnerability to Poverty (Dercon, 2011)

(a) Assets	(b) Incomes	(c) Well-being/capabilities
<ul style="list-style-type: none"> • human capital, labor • physical/financial capital • Commons and public goods • Social capital 	<ul style="list-style-type: none"> • Returns to activities and assets • Returns from asset disposal • Savings, credit, investment • Transfers & remittances 	<ul style="list-style-type: none"> • Ability to obtain • Consumption • Nutrition • Health • Education
Examples of risk (a)	Examples of risk (b)	Examples of risk (c)
<ul style="list-style-type: none"> • Loss of skills due to ill health or unemployment • Land tenure insecurity • Asset damage due to climate, war, disaster • Uncertain access to commons, public goods • Loss of value of financial assets 	<ul style="list-style-type: none"> • Output falls due to climatic shocks, disease, conflict • Output prices rise • Reduced returns on financial assets • Uncertain cash flow during production • Weak contract enforcement, wages not paid • Imperfect information about opportunities 	<ul style="list-style-type: none"> • Price risk in food markets • Food availability/rationing • Uncertain quality of public provision in health and education • Imperfect information on how to achieve good health, nutrition

2.1 Measuring and Analyzing Poverty

➤ Chaudhuri (2003) methodology

Define vulnerability as:

$$\mathbf{V}_{ht} = \Pr(\mathbf{Y}_{h,t+1} \leq \mathbf{Z}_h)$$

where

$\mathbf{Y}_{h,t+1}$ is the household's per capita income at time t+1

\mathbf{Z}_h is the poverty line (for the household)

Income modeled as:

$$\ln Y_h = \mathbf{X}_h \boldsymbol{\beta} + \mathbf{e}_h$$

Y_h is per capita income

\mathbf{X}_h represents a bundle of observable hh characteristics

$\boldsymbol{\beta}$ is a vector of parameters

\mathbf{e}_h is a mean-zero disturbance

Assumption: $\sigma^2_{e,h} = \mathbf{X}_h \boldsymbol{\theta}$

2.1 Measuring and Analyzing Poverty (cont'd)

Variables used in the model:

- Number of young dependents in the household (HH)
- Proportion of HH members aged ≥ 15
- Characteristics of household head:
 - Educational attainment
 - Age and age squared
 - Major sector of employment
 - Whether or not self-employed
- Characteristics of housing unit:
 - Tenure status of house and lot
 - Materials used for roof and walls
 - Electricity
- Region where HH resides
- Price fluctuations in the market
- Presence of strong storm signals

Some Definitions :

POOR Per Capita Income $<$ Poverty Threshold

VULNERABLE $V_h >$ National Poverty Rate

HIGHLY VULNERABLE $V_h > 50\%$

RELATIVELY VULNERABLE $50\% > V_h >$ Poverty Incidence

2.2 Results of 2003-2009 FIES Panel data

Vulnerability (2003)	Income Level (2003)			
	Poor	Low income but not poor	Other HHs	Total
HV	54.5	17.8	3.6	18.4
RV	39.1	53.1	24.3	36.7
NV	6.4	29.1	72.1	44.9

HV = Highly vulnerable

RV = Relatively vulnerable

NV = Not vulnerable

- Practically all the poor in 2003 were classified as vulnerable (either highly or relatively).
- Among the low income households that are not poor in 2003, a fifth are highly vulnerable, and half of relatively vulnerable
- Among other households (i.e., with incomes more than twice the poverty threshold), almost 70% of them are not vulnerable

2.2 Results of 2003-2009 FIES Panel (cont'd)

Vulnerability of Households in 03 by Income Groups in 06 and 09

Income Level	Vulnerability Status (2003)			
	HV	RV	NV	Total
Poor in both 2006 and 2009	60.7	34.9	4.3	100.0
Poor in 2006; low income but not poor in 2009	37.2	50.3	12.5	100.0
Poor in 2006; not low income in 2009	27.5	50.7	21.9	100.0
Low income but not poor in 2006, poor in 2009	24.7	56.6	18.7	100.0
Low income but not poor in both 2006 and 2009	16.2	53.6	30.2	100.0
Low income but not poor in 2006, others in 2009	8.0	42.0	50.1	100.0
Not low income in 2006, poor in 2009	15.6	56.3	28.1	100.0
Not low income in 2006; low income but not poor in 2009	6.1	37.0	56.9	100.0
Not low income in both 2006 and 2009	2.2	18.0	79.9	100.0
TOTAL	17.8	35.5	46.7	100.0

The model has strong predictive power of identifying future poor households:

- Among HHs poor in 06 and 09, 60% were HV and 35% RV in 03;
- Among HHs poor in exactly 1 year, at least half were RV
- HHs with changing income levels in 06 and 09 were mostly RV in 03
- Four-fifths of HHs that were not low income in 2006 and 2009 were not vulnerable in 2003

2.2 Results of 2003-2009 FIES Panel (cont'd)

Household Income Groups in 2006 and 2009, by Vulnerability Status in 2003

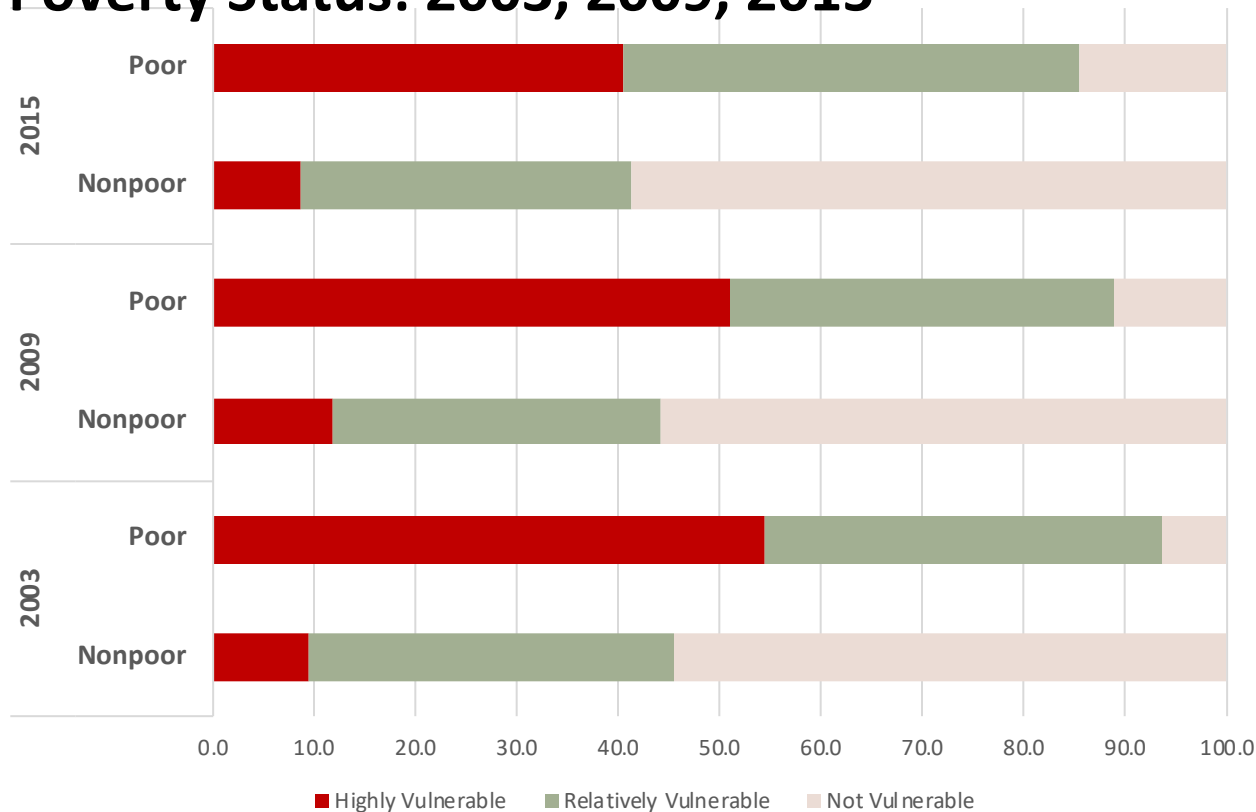
Income Level	Vulnerability Status (2003)			
	HV	RV	NV	Total
Poor in both 2006 and 2009	47.4	13.6	1.3	13.9
Poor in 2006; low income but not poor in 2009	14.3	9.7	1.8	6.8
Poor in 2006; not low income in 2009	1.5	1.4	0.5	1.0
Low income but not poor in 2006, poor in 2009	8.6	9.9	2.5	6.2
Low income but not poor in both 2006 and 2009	16.7	27.6	11.8	18.3
Low income but not poor in 2006, others in 2009	3.7	9.6	8.7	8.1
Not low income in 2006, poor in 2009	0.6	1.0	0.4	0.6
Not low income in 2006; low income but not poor in 2009	2.8	8.6	10.1	8.3
Not low income in both 2006 and 2009	4.5	18.6	63.0	36.9

The model has strong predictive power of identifying future poor HHs:

- Nearly half (47%) of HV households in 2003 were poor in both 2006 and 2009
- About a quarter of RV households in 2003 were low income (not poor) in 2006 and 2009
- Two third (63%) of NV households in 2003 were not low income in 2006 and 2009

2.3.1 Trends in Vulnerability (Poverty Status)

Incidence of Household Vulnerability by Poverty Status: 2003, 2009, 2015



- Across the years, the proportion of households vulnerable to poverty has been around double to triple the official incidence of households in poverty
- Vulnerability rates declined from 55.1% in 2003 to 48.5% in 2015. Proportion of poor households that are HV declined from 54.5% in 2003 to 40.5% in 2015

2.3.2 Trends in Vulnerability (Location)

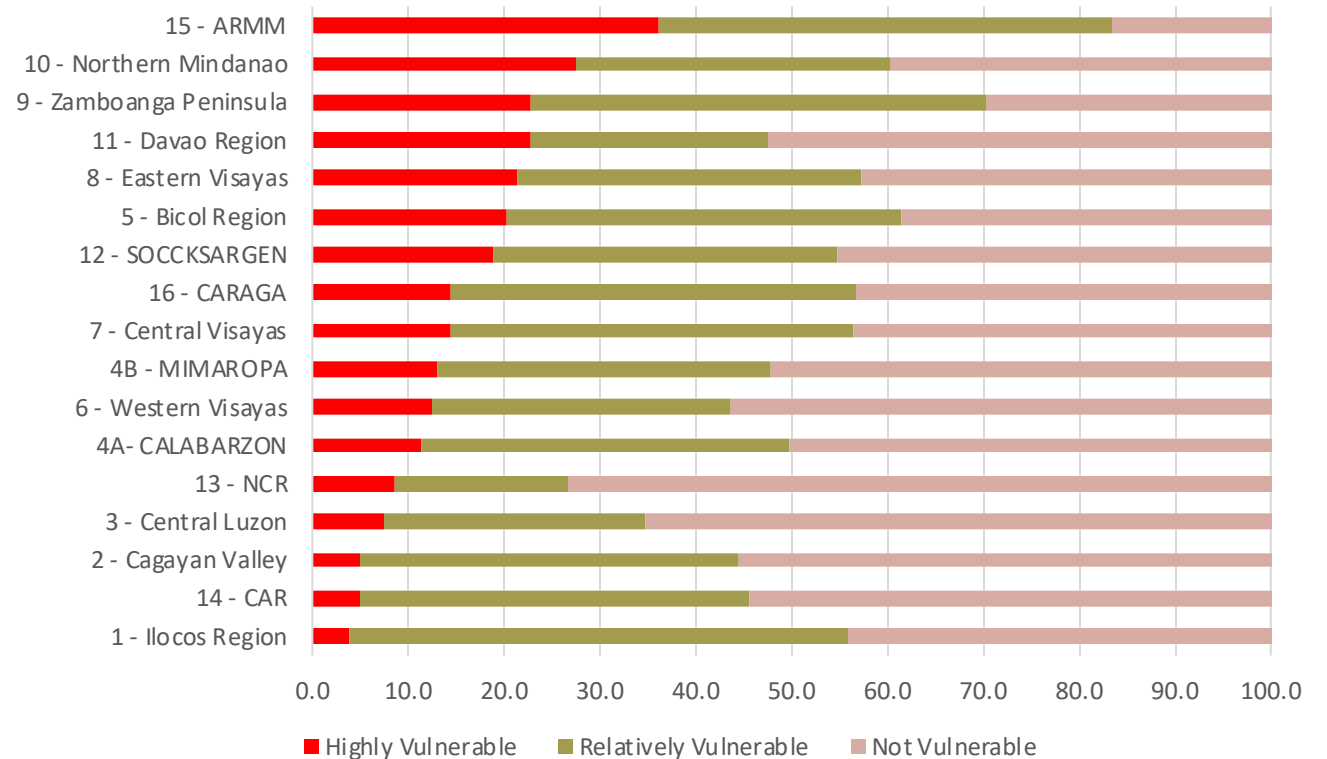
PHILIPPINES		HV	RV	NV	Total
2003	Rural	27.6	48.7	23.7	100.0
	Urban	14.8	26.0	59.2	100.0
	National	21.2	37.5	41.3	100.0
2009	Rural	27.1	40.9	32.0	100.0
	Urban	16.9	26.2	56.9	100.0
	National	22.6	34.4	43.1	100.0
2015	Rural	20.5	48.8	30.7	100.0
	Urban	15.5	24.9	59.6	100.0
	National	18.3	38.4	43.3	100.0

- About three-fifths of households are vulnerable, 1/3 of which are HV
- Households in rural areas are more vulnerable than those in urban areas
- Proportion of HV households in rural areas declined from 2003 to 2015

2.3.3 Trends in Vulnerability (Regions)

- ARMM most vulnerable region (88.2%)– about half of HHs are HV
- Ilocos Region has lowest HV rate among regions but 57% of its HHs are RV
- NCR and Central Luzon are the only regions with (overall) vulnerability rates below 40%

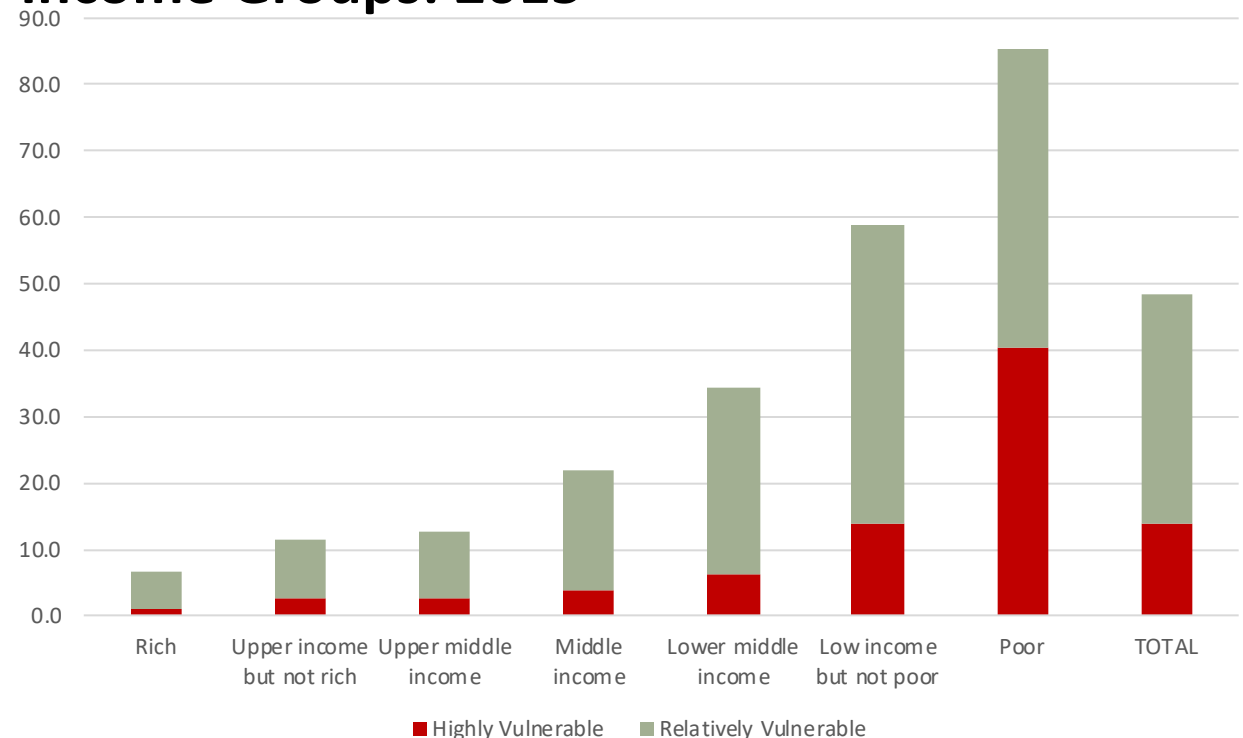
Incidence of Household Vulnerability By Region: 2015



2.4.1 Profile of Vulnerable Households (Income Groups)

- Incidence of vulnerability decreases as you climb up the income group ladder
- Vulnerability rate of lower middle income HHs are about half that of low income (not poor) households
- Upper Income (not rich) and Rich HHs are practically not highly vulnerable; only 5% are considered RV

Proportion of Households that are Highly Vulnerable and Relatively Vulnerable, by Income Groups: 2015



2.4.2 Profile of Vulnerable Households (Main Sources of Income)

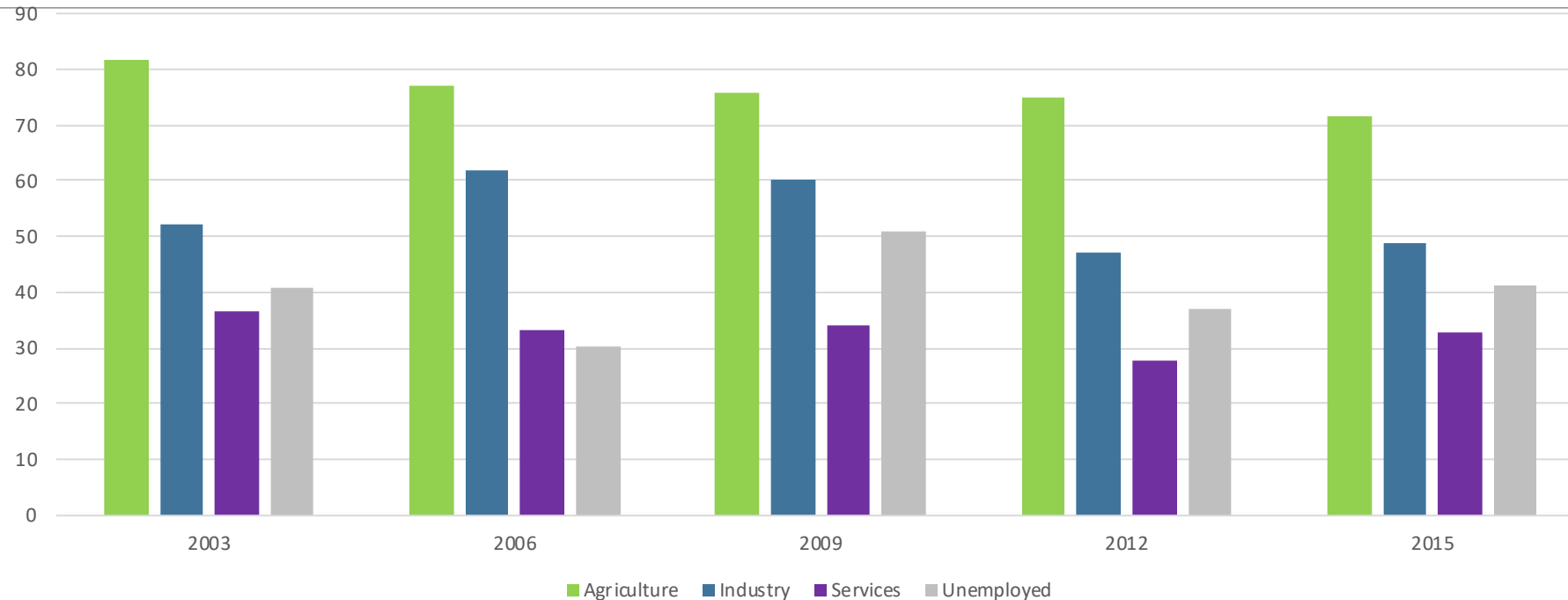
Highly Vulnerable Income Sources: (HV \geq 50%)

- Fishing
- Forestry
- Mining
- Income from family sustenance activities

Least Vulnerable Income Sources: (NV \geq 50%)

- Wage/Salary from non-agri activities (55.1)
- Construction (54.7)
- Entrepreneurial activities NEC (67.0)
- Assistance from abroad (56.6)
- Rental of lands and other activities (75.6)
- Interests from banks (60.5)
- Pensions and retirement benefits (66.0)
- Dividends from investments (100.0)
- Rental value of owner-occupied dwelling units for income (60.6)
- Other income (57.4)

2.4.3 Profile of Vulnerable Households (Major Sector of Employment of HH Head)



- Vulnerability of HHs with heads in agriculture declined (83% in 2003 to 72% in 2015) but still highest among sectors; HHs with heads in services least vulnerable
- About half of HHs with unemployed heads are vulnerable (much lower than those dependent on agriculture). Thus having jobs is not enough but quality of jobs is issue.

2.4.4 Profile of Vulnerable Households (Educational Attainment of HH Head)

Highest Educational Attainment	Highly Vulnerable	Relatively Vulnerable	Not Vulnerable	Total
None	53.2	24.8	22.0	100.0
Some elementary to elementary graduate	20.1	46.0	34.0	100.0
Some high school to high school graduate	10.9	33.1	56.0	100.0
Some college and beyond	5.1	19.6	75.3	100.0
Total	13.9	34.5	51.5	100.0

- Vulnerability rate drops with increasing educational attainment of HH head
- About four-fifth (78%) of HHs with heads who had no education are vulnerable
- Only a third of HHs with heads who at least attended college are vulnerable to poverty

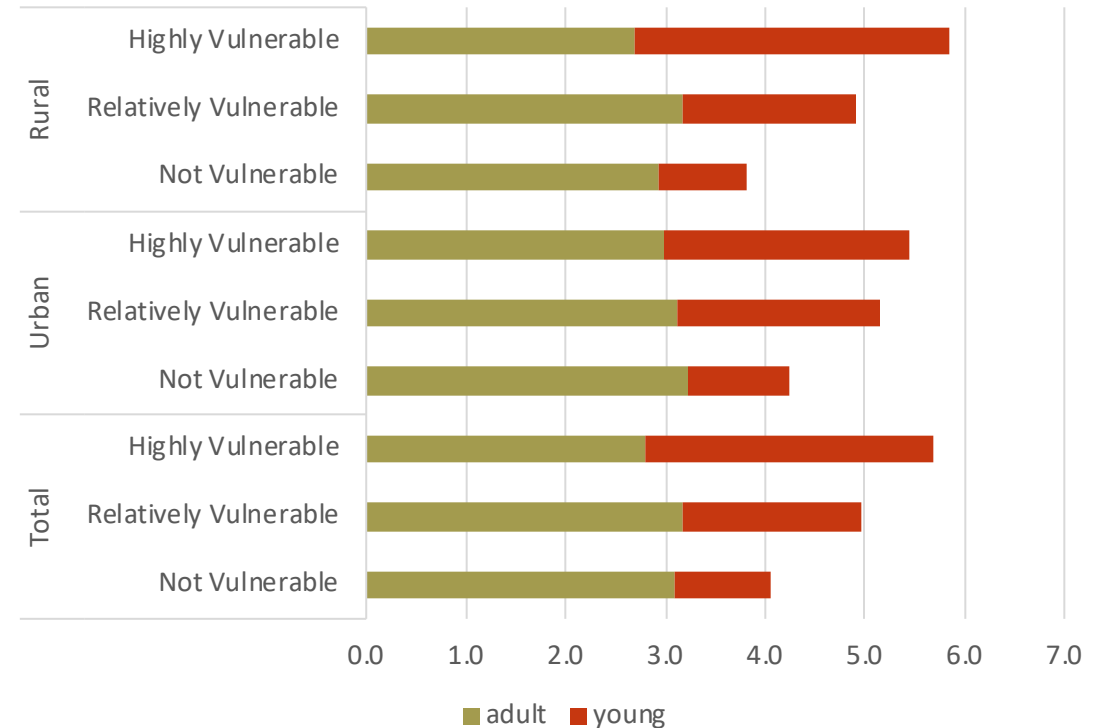
Issue: whose job is it (DepED, DSWD, TESDA???) to ensure basic education for the not so young

2.4.5 Profile of Vulnerable Households (Average Number of Young and Adults)

- HV households in rural areas have larger family sizes than in urban
- Slightly more young members than adults for HV households in rural
- About twice as many adults than young for RV households
- More than 3x the number of adults than young for households identified as not vulnerable

Issue: demographic patterns contribute to further risk

Average Number of Young and Adult Members in Urban and Rural Areas by Household Vulnerability Level: 2015



2.4.6 Profile of Vulnerable Individuals (Basic Sectors of Poverty)

Sector	Poverty Rate	Vulnerability Level			
		HV	RV	NV	Total
Women	22.5	18.1	37.9	44.0	100.0
Youth	19.4	14.6	38.4	47.1	100.0
Children	31.4	25.4	41.4	33.2	100.0
Senior Citizens	13.2	7.5	31.5	61.0	100.0

- A fifth of women are highly vulnerable and a third are not vulnerable
- Children are the poorest and most vulnerable
 - 2 in 3 children are vulnerable; a quarter of them are HV
- Senior citizens are least vulnerable by age group and have lowest poverty rate—only 13% are poor; and an even lower rate is HV

2.4.6 Profile of Vulnerable Individuals (Basic Sectors of Poverty cont'd)

Sector	Poverty Rate	Vulnerability Level			
		HV	RV	NV	Total
Migrants and Workers Employed in Formal Sector	13.4	11.5	35.0	53.6	100.0
Farmers	34.3	24.7	48.2	27.1	100.0
Fishermen	34.0	33.4	50.5	16.1	100.0
Self-employed and Unpaid Family Workers	25.0	18.3	42.5	39.2	100.0
Individuals in Urban Areas	11.5	14.7	23.2	62.1	100.0

- Together with children, Farmers and fishermen are also among the most vulnerable among the sectors. Migrants and workers in formal sector and the people in urban areas are least vulnerable

3. Policy Issues

- A HH is more vulnerable to shocks if it has low levels of human capital: public policies **need** to focus on **risk management**
 - Significant disparities in vulnerability levels evident among subgroups: urban/rural, region, employment sector, educational attainment
 - Households with large family sizes are at a higher risk of becoming poor
- Two sets of intervention for the vulnerable: **protection** from likely **exposure to shocks** and **assistance** for households to **increase their incomes and assets**.
 - Poverty alleviation and social protection efforts have typically resolved around the formulation and implementation of “one size fits all” strategies (e.g. CCT, [SocPEN](#), UCT for TRAIN Law, [UNICEF’s UCT for Yolanda](#)).
- Important to have a **poverty reduction road map** based on **statistical information** of both the poor and the vulnerable

3. Policy Issues

- Pantawid has been viewed by some as “wasteful” : i.e., some think that resources can be better used for livelihood, but this is a “false choice” as CCT focuses on human capital development and has shown positive outcomes (though some issues remain).
- Community Driven Development has provided extra channel of support, but [convergence](#) of social protection policies and programs needs strengthening
- Where we “invest” in risk management matters.
 - While increased infrastructure investment is important, we also need to invest in people, building their skills and capacities (education, health, including RH) for mitigating risks to future poverty especially in the wake of likely consequences to the [Fourth Industrial Revolution](#) so that no one will truly be left behind.



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2018 PIDS Discussion Paper :

<https://pidswebs.pids.gov.ph/CDN/PUBLICATIONS/pidsdps1810.pdf>

2018 PIDS Policy Note:

<https://pidswebs.pids.gov.ph/CDN/PUBLICATIONS/pidspn1816.pdf>

Rappler Article :

<https://www.rappler.com/thought-leaders/210463-poverty-reduction-requires-prevention-and-cure>

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