

# Are the Filipino Children Developmentally on Track?

by:

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# OUTLINE OF THE PRESENTATION

**I. Introduction**

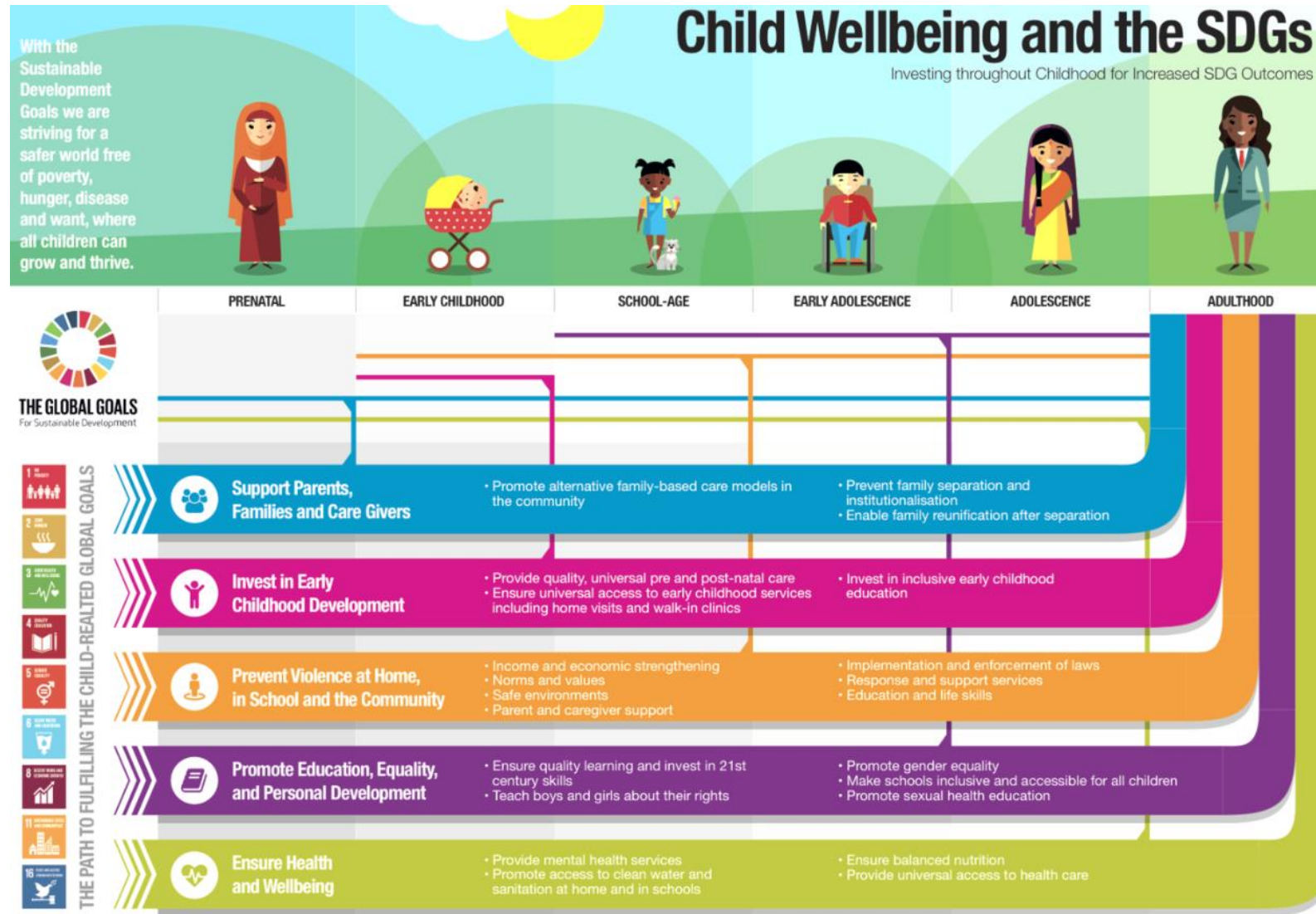
**II. Sustainable Child Development Index Framework (SCDI)**

**III. Limitations of the Estimates**

**IV. 2012, 2015 and 2018 SCDI**

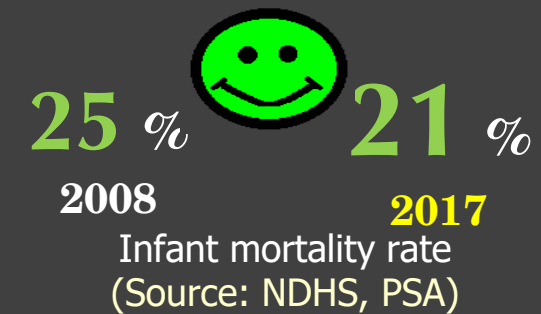
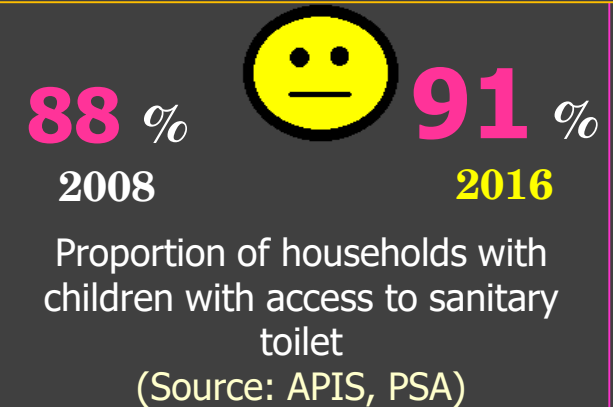
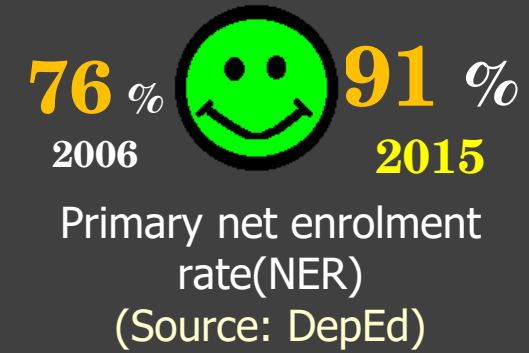
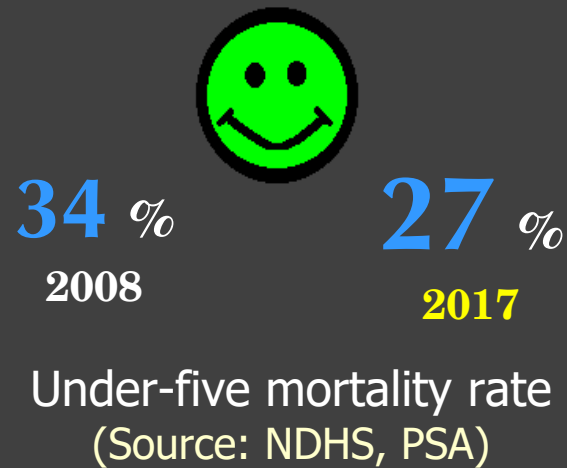
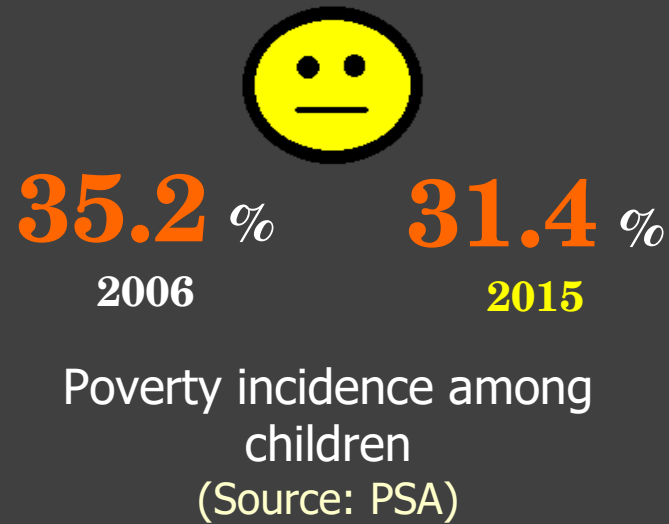
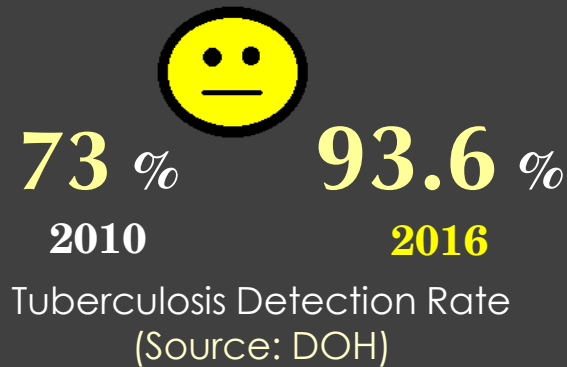
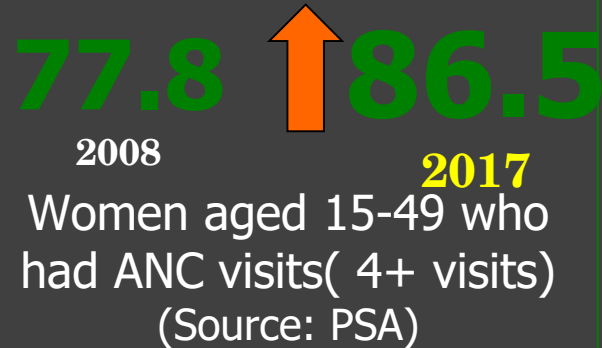
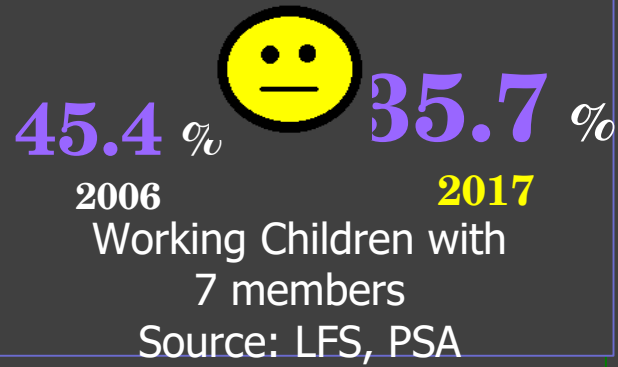
**V. Conclusions and Recommendations**

# I. INTRODUCTION



<http://www.withoutviolence.org/infographics>

# I. INTRODUCTION



# I. INTRODUCTION

## EFFORTS ON THE MONITORING OF THE CHILD DEVELOPMENT INDEX

- As the needs of children and their susceptibility to external factors are different from those of adults, indices that evaluate sustainable development by treating children as a key stakeholder group are needed for complementing whole-population-oriented assessments, such as the Human Development Index (HDI)
- Several indices for assessing child development have been proposed. Child development refers to change or growth that occurs in a child during the life span from birth to adolescence.
- One of the relevant focus of the children studies are on child development indices. An index aggregates a number of indicators addressing individual topics.

# I. INTRODUCTION

## EFFORTS ON THE MONITORING OF THE CHILD DEVELOPMENT INDEX

- **In 2008, Child Development Index (CDI)** was measured using three (3) dimensions, namely, child health, child education and quantity of life index. This is closely aligned with the Human Development Index but constrained by the availability of supporting data (Virola et.al)
  - *Child Health Index* - used infant and child mortality rates as indicators;
  - *Child Education Index* - used elementary net enrolment rate and secondary net enrolment rate as indicators; and
  - *Child Quantity of Life Index* - used poverty incidence among children.

# I. INTRODUCTION

## EFFORTS ON THE MONITORING OF THE CHILD DEVELOPMENT INDEX

- In 2011, to inject a rights-based approach to the CDI, Child Development Index (CDI) methodology was improved called **rights-based CDI** that incorporated new and more relevant variables and indicators that measure the accountability of the duty bearers in the development of children, across different life stages (Virola et.al)
  - *Child Health Index* - used Infant mortality rate, Fully immunized children, Percentage of children ever breastfed, Percentage of children with Vitamin A supplementation, Proportion of women with at least three pre-natal visits
  - *Child Education Index* - used elementary net enrolment rate and secondary net enrolment rate as indicators; and
  - *Child Quantity of Life Index* - used poverty incidence among children.



# I. INTRODUCTION

## EFFORTS ON THE MONITORING OF THE CHILD DEVELOPMENT INDEX

The major difference is that the CDI is computed across life stages of a child:

- CDI for infants (children less than 1 year);
- CDI for children aged 1-5 years;
- CDI for children aged 6-10 years; and
- CDI for children aged 11-17 years.



# I. INTRODUCTION

## EFFORTS ON THE MONITORING OF THE CHILD DEVELOPMENT INDEX

- Some of the studies on the CDI

Dimensions	CDI (Save the Children)	CDI Philippines	BRADSHAW	LAND	New Kids Count	MOORE	SCDI
Health							
Education							
Nutrition							
Material/economic situation							
Housing and environment							
Children's relationships (family and community context)							
Risk and safety							
Civic participation							

## II. SUSTAINABLE CHILD DEVELOPMENT INDEX FRAMEWORK (SCDI)

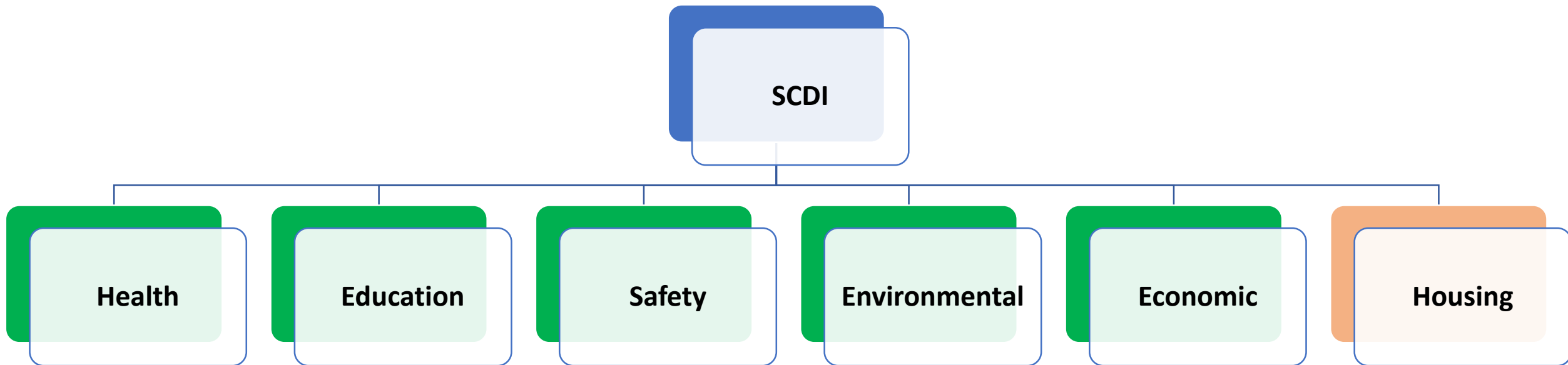
- **Sustainable development as “development that meets the needs of the present without compromising the ability of future generations to meet their own needs”** (UN. Report of the World Commission on Environment and Development: *Our Common Future*; United Nations: New York, NY, USA, 1987. )
- **Sustainable child development** refers to a development that supports children to meet their needs in the present living state and protects children in order for them to have the ability for shaping their future prospects. (Chang, 2015)

## II. SUSTAINABLE CHILD DEVELOPMENT INDEX FRAMEWORK (SCDI)

- *Chang (2017) assessed the different CDI index frameworks and was able to develop the structure of the Sustainable Child Development Index (SCDI) framework*
- *Dimensions of SCDI:*
  - 1) *Education*
  - 2) *Health*
  - 3) *Safety*
  - 4) *Economic Status*
  - 5) *Participation*
  - 6) *Relationship*
  - 7) *Environmental aspects*

## II. SUSTAINABLE CHILD DEVELOPMENT INDEX FRAMEWORK (SCDI)

- *Adopting the SCDI Framework of Chang (2015) in the national context, the Philippine SCDI Framework was developed*



## II. SUSTAINABLE CHILD DEVELOPMENT INDEX FRAMEWORK (SCDI)

- *Philippine SCDI Framework*

Adopting the life course approach of the CDI, the SCDI will be across life stages of a child:

CDI for infants (children less than 2 years);

CDI for children aged 2-5 years;

CDI for children aged 6-10 years; and

CDI for children aged 11-17 years.

## II. SUSTAINABLE CHILD DEVELOPMENT INDEX FRAMEWORK

- *Philippine SCDI Framework Indicators for infants*

Dimensions	Indicators
Sustainable Child Health Index	<ul style="list-style-type: none"> <li>• Proportion of infants who were exclusively breastfed</li> <li>• Neonatal Mortality Rate</li> <li>• Infant Mortality Rate</li> <li>• Percentage of births delivered by a skilled provider</li> <li>• Proportion of Fully Immunized Children</li> <li>• Proportion of children with low birth weight</li> <li>• Percentage of women with 4+ ANC visits</li> </ul>
Sustainable Child Education Index	
Sustainable Child Safety Index	<ul style="list-style-type: none"> <li>• Number of children aged 0 to 2 whose births have been registered with a civil authority</li> <li>• Proportion of children aged 0 to 2 living with parents</li> </ul>
Sustainable Child Economic Index	<ul style="list-style-type: none"> <li>• Poverty incidence among children</li> <li>• Employment rate of the parents with children below 2 years old</li> </ul>
Sustainable Child Housing Index	<ul style="list-style-type: none"> <li>• Proportion of families with children below 2 years old that have electricity</li> <li>• Proportion of families with children below 2 years old with secure tenure status</li> <li>• Proportion of families with children below 2 years old with strong roof materials</li> <li>• Proportion of families with children below 2 years old with strong wall materials</li> </ul>
Sustainable Child Environmental Index	<ul style="list-style-type: none"> <li>• Proportion of families with children below 2 years old with access to safe water supply</li> <li>• Proportion of families with children below 2 years old with sanitation facility</li> </ul>

## II. SUSTAINABLE CHILD DEVELOPMENT INDEX FRAMEWORK

- Philippine SCDI Framework Indicators for **Children 2-5 years old**

Dimensions	Indicators
Sustainable Child Health Index	<ul style="list-style-type: none"> <li>Proportion of Children 2-5 years old who are:               <ul style="list-style-type: none"> <li>- Stunted</li> <li>- Wasted</li> <li>- Underweight</li> <li>- Overweight</li> </ul> </li> <li>Child Mortality Rate</li> <li>Prevalence of Anemia</li> <li>Proportion of children with low birth weight</li> </ul>
Sustainable Child Education Index	
Sustainable Child Safety Index	<ul style="list-style-type: none"> <li>Number of children 2-5 years old whose births registered with a civil authority</li> <li>Proportion of children 2-5 years old living with parents</li> </ul>
Sustainable Child Economic Index	<ul style="list-style-type: none"> <li>Poverty incidence among children</li> <li>Employment rate of the parents with children 2-5 years old</li> </ul>
Sustainable Child Housing Index	<ul style="list-style-type: none"> <li>Proportion of families with children 2-5 years old that has electricity</li> <li>Proportion of families with children 2-5 years old with secure tenure status</li> <li>Proportion of families with children 2-5 years old with strong roof materials</li> <li>Proportion of families with children 2-5 years old with strong wall materials</li> </ul>
Sustainable Child Environmental Index	<ul style="list-style-type: none"> <li>Proportion of families with children 2-5 years old with access to safe water supply</li> <li>Proportion of families with children 2-5 years old with sanitation facility</li> </ul>



## II. SUSTAINABLE CHILD DEVELOPMENT INDEX FRAMEWORK

- Philippine SCDI Framework Indicators for **Children 6-10 years old**

Dimensions	Indicators
Sustainable Child Health Index	<ul style="list-style-type: none"> <li>Proportion of Children 6-10 years old who are:               <ul style="list-style-type: none"> <li>- Stunted</li> <li>- Wasted</li> <li>- Underweight</li> <li>- Overweight</li> </ul> </li> <li>Prevalence of Iodine deficiency</li> <li>Prevalence of Anemia</li> </ul>
Sustainable Child Education Index	<ul style="list-style-type: none"> <li>Expected Number of Years in School (6 to 10 years old)</li> </ul>
Sustainable Child Safety Index	<ul style="list-style-type: none"> <li>Number of children 6-10 years old whose births registered with a civil authority</li> <li>Proportion of children 6-10 years old living with parents</li> </ul>
Sustainable Child Economic Index	<ul style="list-style-type: none"> <li>Proportion of poor families with children 6-10 years old</li> <li>Employment rate of the parents with children 6-10 years old</li> </ul>
Sustainable Child Housing Index	<ul style="list-style-type: none"> <li>Proportion of families with children 6-10 years old that has electricity</li> <li>Proportion of families with children 6-10 years old with secure tenure status</li> <li>Proportion of families with children 6-10 years old with strong roof materials</li> <li>Proportion of families with children 6-10 years old with strong wall materials</li> </ul>
Sustainable Child Environmental Index	<ul style="list-style-type: none"> <li>Proportion of families with children 6-10 years old with access to safe water supply</li> <li>Proportion of families with children 6-10 years old with sanitation facility</li> </ul>

## II. SUSTAINABLE CHILD DEVELOPMENT INDEX FRAMEWORK

- Philippine SCDI Framework Indicators for **Children 11-17 years old**

Dimensions	Indicators
Sustainable Child Health Index	<ul style="list-style-type: none"> <li>Proportion of Children 11-17 years old who are:                             <ul style="list-style-type: none"> <li>- Stunted</li> <li>- Wasted</li> <li>- Overweight</li> </ul> </li> <li>Prevalence of Iodine deficiency</li> <li>Prevalence of Anemia</li> </ul>
Sustainable Child Education Index	<ul style="list-style-type: none"> <li>Expected Number of Years in School (11 to 17 years old)</li> </ul>
Sustainable Child Safety Index	<ul style="list-style-type: none"> <li>Number of children 11-17 years old whose births registered with a civil authority</li> <li>Proportion of children 11-17 years old living with parents</li> </ul>
Sustainable Child Economic Index	<ul style="list-style-type: none"> <li>Proportion of poor families with children 11-17 years old</li> <li>Employment rate of the parents with children 11-17 years old</li> </ul>
Sustainable Child Housing Index	<ul style="list-style-type: none"> <li>Proportion of families with children 11-17 years old that has electricity</li> <li>Proportion of families with children 11-17 years old with secure tenure status</li> <li>Proportion of families with children 11-17 years old with strong roof materials</li> <li>Proportion of families with children 11-17 years old with strong wall materials</li> </ul>
Sustainable Child Environmental Index	<ul style="list-style-type: none"> <li>Proportion of families with children 11-17 years old with access to safe water supply</li> <li>Proportion of families with children 11-17 years old with sanitation facility</li> </ul>

## II. SUSTAINABLE CHILD DEVELOPMENT INDEX FRAMEWORK (SCDI)

- *Philippine SCDI*

### General formula used in normalizing indicators:

Positive Indicators: Index =  $\frac{\text{Indicator} - \text{Minimum Indicator}}{\text{Maximum Indicator} - \text{Minimum Indicator}}$

Negative Indicators: Index =  $\frac{\text{Maximum Indicator} - \text{Indicator}}{\text{Maximum Indicator} - \text{Minimum Indicator}}$

### Dimension Scores

$$\text{SCDI Dimension}_{ij} = \overline{\text{indicator}_{ijk}}$$

where,

$j = j$  dimensions of the  $i$ th life stage;

$\text{Indicator}_{ijk} = k$ th Indicator used for measuring  $j$ th dimension of development of the  $i$ th life stage

## II. SUSTAINABLE CHILD DEVELOPMENT INDEX FRAMEWORK (SCDI)

### Sustainable Child Development Index(CDI)

- **SCDI** is measured by taking the geometric average of the dimension scores:

$$SCDI_i = (SCH_i * SCEd_i * SCS_i * SCE_n_i * SCEc_i * SCH_i)^{(1/6)}$$

where  $i$  = child's life stages (i.e., infants, children aged 2-5 years, 6-10 years, and 11-17 years)

- **Overall SCDI** is measured by taking the weighted average of the SCDI by life stage:

$$SCDI = \sum_1^4 w_i SCDI_i$$

where  $i$  = child's life stages (i.e., infants, children aged 2-5 years, 6-10 years, and 11-17 years)

$w_i$  = the proportion of the population for the concerned age group to the total number of children

**The higher the value of CDI, the more the human development of children is.**



### **III . Limitations of the Study**

- 1) The SCDI is limited to the national and regional level, mainly due to limitations of existing disaggregation of data available in the PSS.**
- 2) 2018 SCDI will just be produced at the national level due to the limitations in the availability of some data at the regional level (e.g. nutrition indicators)**
- 3) The poverty estimates used for 2018 was still based on the 2015 poverty estimates among the basic sectors since the 2018 statistics are yet to be released**
- 4) Availability of environmental indicators such as resource accessibility**

### **III . Limitations of the Study**

- 5) Availability of indicator on early child care and development indicators**
- 6) The SCDI by life stage was computed using unweighted geometric mean following the HDI methodology. On the computation of the overall SCDI, as a function life stages, the population for the concerned age group was used as weights. These weights may need to be assessed.**

## IV . 2012, 2015, 2018 SCDI

	Overall SCI Index	Standard Error
2012	0.773	0.013
2015	0.793 	0.015
2018	0.807 	0.011



## IV . 2012, 2015, 2018 SCDI

Index	2012	2015	2018
<b>Overall SCDI</b>	<b>0.773</b>	<b>0.793</b>	<b>0.807</b>
Sustainable Child Health Index	0.435	0.464	
Sustainable Child Education Index	0.600	0.626	
Sustainable Child Safety Index	0.938	0.928	
Sustainable Child Economic Index	0.734	0.764	
Sustainable Child Housing Index	0.871	0.892	
Sustainable Child Environmental Index	0.953	0.960	

# IV . 2012, 2015, 2018 SCDI

Index	2012	2015	2018	Percentage Difference	
				2012-2015	2015-2018
<b>Overall SCDI</b>	0.773	0.793	0.807	0.027	0.017
<b>&lt;2 year old</b>	0.808	0.826	0.833	0.023	0.008
<b>2-5 years old</b>	0.754	0.773	0.796	0.025	0.030
<b>6-10 years old</b>	0.770	0.802	0.802	0.041	(0.0)*
<b>11-17 years old</b>	0.776	0.790	0.809	0.019	0.024

**\* - difference is very small**

## IV . 2012, 2015, 2018 SCDI

Index	2012	2015	2018
SCDI of Children less than 2 years old	0.808	0.826	0.833
Sustainable Child Health Index	0.608	0.642	0.709
Sustainable Child Education Index			
Sustainable Child Safety Index	0.933	0.921	0.924
Sustainable Child Economic Index	0.731	0.762	0.763
Sustainable Child Housing Index	0.868	0.890	0.913
Sustainable Child Environmental Index	0.954	0.961	0.877

## IV . 2012, 2015, 2018 SCDI

Index	2012	2015	2018
SCDI of Children 2 to 5 years old	0.754	0.773	0.796
Sustainable Child Health Index	0.427	0.461	0.537
Sustainable Child Education Index			
Sustainable Child Safety Index	0.942	0.927	0.934
Sustainable Child Economic Index	0.735	0.765	0.765
Sustainable Child Housing Index	0.867	0.879	0.917
Sustainable Child Environmental Index	0.950	0.957	0.905

## IV . 2012, 2015, 2018 SCDI

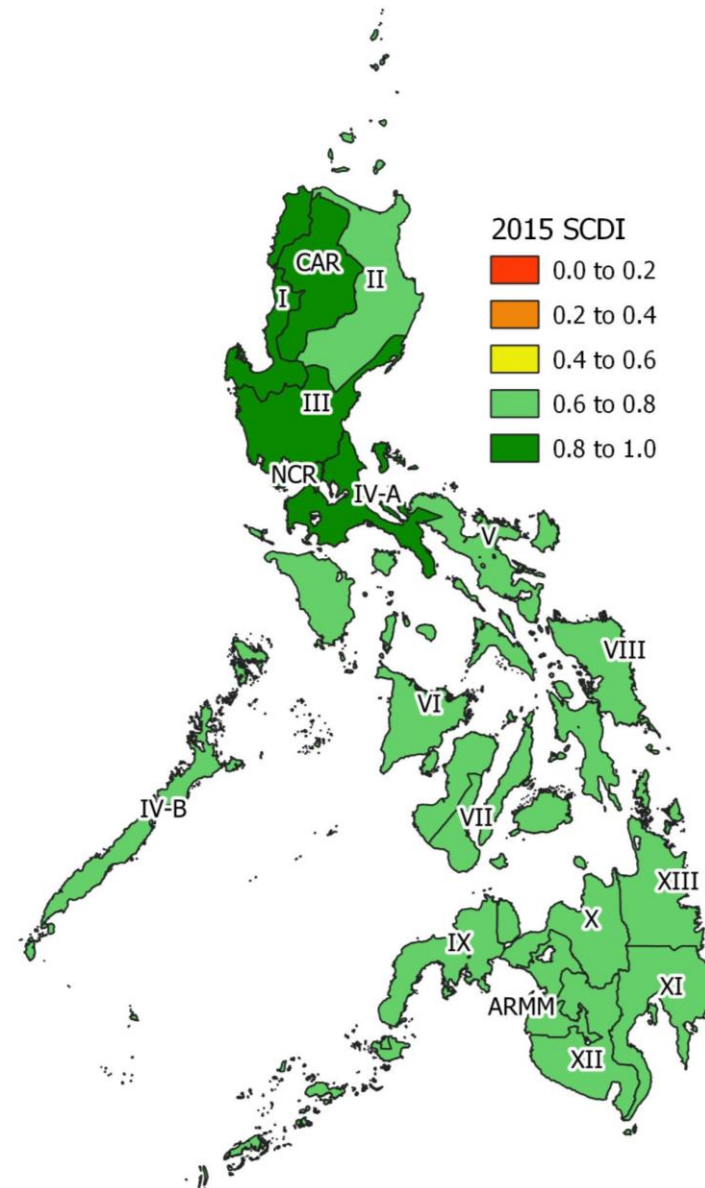
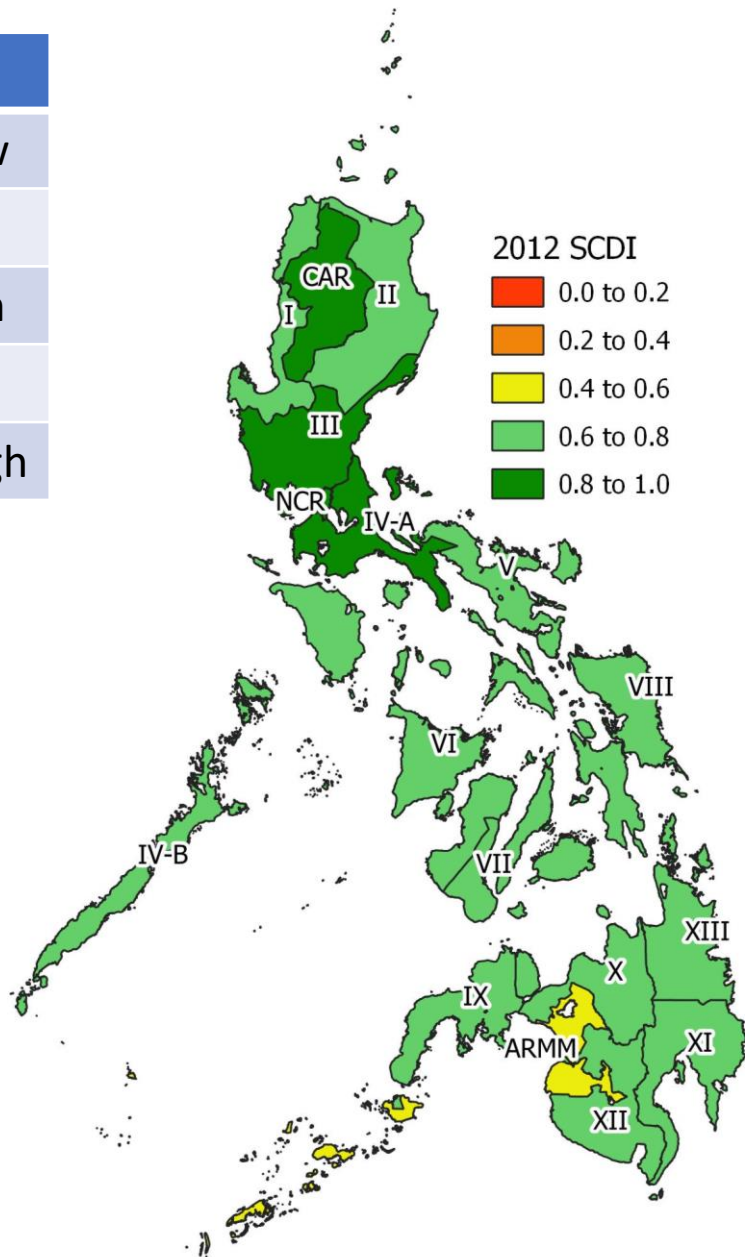
Index	2012	2015	2018
SCDI of Children 6 to 10 years old	0.770	0.802	0.802
Sustainable Child Health Index	0.380	0.440	0.451
Sustainable Child Education Index	0.964	0.975	0.980
Sustainable Child Safety Index	0.943	0.934	0.935
Sustainable Child Economic Index	0.734	0.764	0.763
Sustainable Child Housing Index	0.863	0.904	0.923
Sustainable Child Environmental Index	0.951	0.960	0.912

## IV . 2012, 2015, 2018 SCDI

Index	2012	2015	2018
SCDI of Children 11 to 17 years old	0.776	0.790	0.809
Sustainable Child Health Index	0.427	0.433	0.479
Sustainable Child Education Index	0.888	0.927	0.974
Sustainable Child Safety Index	0.934	0.927	0.927
Sustainable Child Economic Index	0.734	0.765	0.765
Sustainable Child Housing Index	0.879	0.890	0.936
Sustainable Child Environmental Index	0.955	0.963	0.907

# IV. 2012, 2015, 2018 SCDI

SCDI	
0.0 to 0.2	Very low
0.2 to 0.4	Low
0.4 to 0.6	Medium
0.6 to 0.8	High
0.8 to 1.0	Very High





# V. Conclusions and Recommendations

- 1) Taking off from the limitations cited in the previous section, the methodology surely needs improvement**
- 2) There is a need to further assess indicators that significantly address areas of concern specific to children. This may entail consultations with various duty bearers, among others.**
- 3) Assess possible indicators that may provide information on the child relationships with family and other people**

# Thank you!

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