How are people poor?
measuring global progress toward zero poverty

Sabina Alkire, WIDER Annual Lecture
24 October 2017
HOW ARE PEOPLE POOR?
Measuring global progress toward zero poverty

1. Tracking poverty in all its dimensions
2. Principles of global poverty monitoring
3. The Global Multidimensional Poverty Index
   Construction ~ Features ~ Criticisms ~ Changes over time
4. Global MPI in Dialogue
   $1.90/day ~ Composite Indicators ~ MODA ~ National MPIs
5. SDG Reporting: Target 1.2
6. Hard questions
Turning to poverty analysis, identifying a minimal combination of basic capabilities can be a good way of setting up the problem of diagnosing and measuring poverty. It can lead to results quite different from those obtained by concentrating on inadequacy of income as the criterion of identifying the poor. The conversion of income into basic capabilities may vary greatly between individuals and also between different societies, so that the ability to reach minimally acceptable levels of basic capabilities can go with varying levels of minimally adequate incomes. The income-centred view of poverty, based on specifying an interpersonally invariant ‘poverty line’ income, may be very misleading in the identification and evaluation of poverty.

Sen 1990 Capability & Wellbeing
“A number can awaken consciences; it can mobilize the reluctant, it can ignite action, it can generate debate; it can even, in the best of circumstances, end a pressing problem”

*Numbers that Move the World*

by Miguel Szekely (2005, 13).
Tracking poverty in all its forms and dimensions
Transforming Our World (SDGs) 2015

**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.

**Preamble Sept 2015**: The interlinkages and integrated nature of the Sustainable Development Goals are of crucial importance.

**Preamble**: We recognise that eradicating poverty in all its forms and dimensions, including extreme poverty, is the greatest global challenge and an indispensable requirement for sustainable development.
2.1 Shared ambitions for a shared future:
50. All contributions underlined that we should continue the march of the MDGs. But they have also stressed that Member States will need to fill key sustainable development gaps left by the MDGs, such as the multi-dimensional aspects of poverty, decent work for young people, social protection and labour rights for all.

4.1 Financing our future:
100. Levels of concessionality should take into account different development stages, circumstances and multiple dimensions of poverty, and the particular type of investment made.

5.1 Measuring the new dynamics:
135. Member States have recognized the importance of building on existing initiatives to develop measurements of progress ....These metrics must be squarely focused on measuring social progress, human wellbeing, justice, security, equality, and sustainability. Poverty measures should reflect the multi-dimensional nature of poverty.
A resolution of the UNGA (A/RES/69/238) on 19 December 2014 reasserted the need for multidimensional measures as a necessary conceptual framework for the global community to measure and tackle extreme poverty.

5. [UNGA] Underlines the need to better reflect the multidimensional nature of development and poverty, as well as the importance of developing a common understanding among Member States and other stakeholders of that multidimensionality and reflecting it in the context of the post-2015 development agenda, and in this regard invites Member States, supported by the international community, to consider developing complementary measurements, including methodologies and indicators for measuring human development, that better reflect that multidimensionality.
119. We further call on the United Nations, in consultation with the IFIs to develop transparent measurements of progress on sustainable development that complement GDP, building on existing initiatives. These should recognize the multi-dimensional nature of poverty and the social, economic, and environmental dimensions of domestic output. We will also support statistical capacity building in developing countries. We agree to develop and implement tools to monitor sustainable development impacts for different economic activities, including for sustainable tourism.

Resolution adopted by the General Assembly on 6 July 2017

[without reference to a Main Committee (A/71/L.75)]

71/313. Work of the Statistical Commission pertaining to the 2030 Agenda for Sustainable Development

The General Assembly,

Reaffirming its resolution 70/1 of 25 September 2015, by which the General Assembly adopted the 2030 Agenda for Sustainable Development,

Reaffirming also the pledge that no one will be left behind in implementing the 2030 Agenda for Sustainable Development, that the 2030 Agenda is people-centred, universal and transformative, that the Sustainable Development Goals and targets are integrated and indivisible and balance the three dimensions of sustainable development – economic, social and environmental – and that it is a plan of action for people, planet and prosperity that also seeks to strengthen universal peace in larger freedom, to be implemented by all countries and stakeholders, acting in collaborative partnership, and reaffirming further all the principles recognized in the Agenda and that eradicating poverty in all its forms and dimensions, including extreme poverty, is the greatest global challenge and an indispensable requirement for sustainable development,
ASPIRATION 1. A prosperous Africa based on inclusive growth and sustainable development

We are determined to eradicate poverty in one generation and build shared prosperity through social and economic transformation of the continent.

ASPIRATION 6: An Africa whose development is people-driven, relying on the potential of African people, especially its women and youth, and caring for children

All the citizens of Africa will be actively involved in decision making in all aspects. Africa shall be an inclusive continent where no child, woman or man will be left behind or excluded, on the basis of gender, political affiliation, religion, ethnic affiliation, locality, age or other factors.
Potential Value-added

1. Measure poverty in multiple dimensions rigorously
2. Prioritize SDG goals and indicators
3. Make visible interlinkages across SDG indicators
4. Disaggregate by age, disability status, region, urban/rural areas etc to leave no one behind.
5. Use as a tool of governance:
   a. To shape resource allocation
   b. To coordinate policies across sectors and across levels of government
   c. To design multisectoral policies that reflect interlinked deprivations
   d. To monitor and headline progress alongside $1.90/day
   e. To share information with other stakeholders via open data
   f. To target poor households and regions
   g. To provide a concrete multipurpose tool for policy planning & action
Principles and requirements of global poverty monitoring
The subject of this Report—measuring global poverty—is highly controversial. There are those who believe that the current exercise is futile. The obstacles to making such a calculation are so great, it is argued, that it makes no sense to even attempt an estimate of the number of people living in extreme poverty. This view is not one that I share and it is not one that underlies this Report. The aim of the Report is to explore—within a context glossed in two key respects—what can be said.

The first gloss is that, as the title of the Report indicates, the principal aim is to determine the extent to which global poverty is changing over time…

The second gloss is that the Report stresses that any estimate—of level or of change—is surrounded by a margin of error. This is often lost from sight in public pronouncements, and it is important to convey to policy makers and other users that they are operating with numbers about which there is considerable uncertainty.”
Atkinson Commission

- “the remit of the Commission… is concerned only with the monitoring of the extent of global poverty.”
  - Atkinson Preface page x

1. Monitoring Extreme Poverty

2. Beyond Goal 1.1: Complementary Indicators and Multidimensionality

3. Making it Happen
Atkinson Part 2: Principles

**Principle 1:** The coverage of the indicator should be truly global, covering the whole of the world population.

**Table 2.4: Global MPI and EU Social Inclusion Indicators**

**Principle 2:** The indicator should be transparent and identify the essence of the problem.

**Principle 3:** The definition of the indicator should be generally accepted as valid and have a clear normative interpretation

**Principle 4:** The indicator should be sufficiently robust and statistically validated; there should be a clear structure of accountability for its definition and construction.
Atkinson Commission: Principles

**Principle 5:** Indicators constructed with global coverage of countries should be cross-checked against information available at the level of individual countries.

**Principle 6:** Where indicators are either combined as in a multi-dimensional measure, or presented in conjunction as in a dashboard, the portfolio of indicators should be balanced across different dimensions. [Six non-monetary dimensions are proposed]

**Principle 7:** The design of social indicators should, wherever possible, make use of information already available. Where new information is needed, then it should be obtained, as far as feasible, using existing instruments or by making use of administrative data.
Atkinson Commission: Complementary Indicators

**Recommendation 18:** The World Bank should establish its own requirements with regard to the measurement of nonmonetary poverty, for inclusion in the **Complementary Indicators (including the overlapping poverty measure)** and in other World Bank uses, and ensure that these are fully represented in the activities of the international statistical system, particularly with regard to the proposed SDG indicators.

**Choice of Dimensions for Complementary Indicators and their Overlap**

On the basis of these considerations, the starting point for the dashboard proposed here is the following list of six domains (p 158):

1. Nutrition
2. Health status
3. Education
4. Housing conditions
5. Access to work
6. Personal security
“the move to a multidimensional concept of poverty involves two key elements: the **extension of dimensions** and the introduction of **correlation** between these dimensions across the population.

“There is interest both in what is shown by each dial and in the relation between what is happening on different dials.

“It is not just how many people are deprived, but also how many households have a low score on all or several of the dimensions. Do those with low levels of education also suffer from poor health? From the standpoint of evaluating policy, the different dimensions have to be examined in conjunction.”
Figure 2.8 The Overlapping of Deprivation

Union

Households with deprivation 3

Households with deprivation 1

Intersection

Households with deprivation 2

Shaded area = multiple deprivation where $k = 2$

Note: The ovals show households suffering deprivations 1, 2, or 3. The union includes all households suffering one or more deprivations; the intersection shows households suffering all three deprivations. The striped area, which includes the Intersection, shows all households with 2 or more deprivations.
Atkinson Commission: Multidimensional Poverty Indices

“Recommendation 19: the Complementary Indicators should include a multidimensioned poverty indicator based on the counting approach.

“It is not proposed that the indicator should include a monetary poverty dimension. In this respect, the Report is following the examples of Chile, Costa Rica, and other countries listed in table 2.2, but not that of Mexico. The aim of Recommendations 18 and 19 is to provide indicators that complement the monetary indicator, and not to seek to combine the two different approaches.” (p 170)

“To sum up, Recommendation 19 envisages the counting approach as being implemented in terms of the adjusted head count ratio, and its constituents of the head count and average breadth of deprivation.” (p 171)
Box 2.2 Recommendations in Chapter 1 Relevant to Nonmonetary Indicators

• **Recommendation 2:** The National Poverty Statistics Reports (NPSR) for each country should include the dashboard of nonmonetary indicators.

• **Recommendation 3:** Investigate the extent to which people are “missing” from household surveys, and make proposals made for adjustments where appropriate for survey underrepresentation and noncoverage; review the quality of the baseline population data for each country, and the methods used to update from the baseline to the years covered by the estimates.

• **Recommendation 5:** The estimates should be accompanied by an evaluation of the possible sources of error, including nonsampling error.
Box 2.2 Recommendations in Chapter 1 Relevant to Nonmonetary Indicators

• **Recommendation 6:** There should be explicit criteria for the selection of household survey data, subject to outside scrutiny, and assessment at national level of the availability and quality of the required household survey data, and review of possible alternative sources and methods of ex post harmonization.

• **Recommendation 8:** Investigate for a small number of countries alternative methods of providing current poverty estimates using scaled-down surveys, or the SWIFT or other surveys.
The Global MPI
(Multidimensional Poverty Index)
Methodology for the National and Global MPIs

1. Select Indicators, Cutoffs, Values

2. Build a deprivation score for each person

3. Identify who is poor

4. Use: MPI, Incidence, Intensity & Composition
Dimensions, Weights, Indicators, Cutoffs

Three Dimensions of Poverty
- Health
  - Nutrition
  - Child Mortality
- Education
  - Years of Schooling
  - School Attendance
- Living Standard
  - Cooking Fuel
  - Improved Sanitation
  - Safe Drinking Water
  - Electricity
  - Flooring
  - Assets
### The global MPI Indicators mapped to the SDGs

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Indicator</th>
<th>Related SDG</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health</td>
<td>Nutrition</td>
<td>SDG 2 (Zero Hunger)</td>
</tr>
<tr>
<td></td>
<td>Child Mortality</td>
<td>SDG 3 (Health &amp; Well-being)</td>
</tr>
<tr>
<td>Education</td>
<td>Years of Education</td>
<td>SDG 4 (Quality Education)</td>
</tr>
<tr>
<td></td>
<td>School Attendance</td>
<td>SDG 4 (Quality Education)</td>
</tr>
<tr>
<td>Living Standard</td>
<td>Cooking Fuel</td>
<td>SDG 7 (Affordable &amp; Clean Energy)</td>
</tr>
<tr>
<td></td>
<td>Sanitation</td>
<td>SDG 6 (Clean Water &amp; Sanitation)</td>
</tr>
<tr>
<td></td>
<td>Drinking Water</td>
<td>SDG 6 (Clean Water &amp; Sanitation)</td>
</tr>
<tr>
<td></td>
<td>Electricity</td>
<td>SDG 7 (Affordable &amp; Clean Energy)</td>
</tr>
<tr>
<td></td>
<td>Floor</td>
<td>SDG 11 (Sustainable Cities &amp; Communities)</td>
</tr>
<tr>
<td></td>
<td>Assets</td>
<td>SDG 1 (No Poverty)</td>
</tr>
</tbody>
</table>
Existing Indicator Incomparabilities

- Assets indicator may lack subcomponents (radio, tv, frig, telephone…)
- Nutritional data from different hh members (children, women, man)
- Child Mortality may be available from women and/or men
- Child Mortality ‘in last 5 years’ not always available
- Sometimes only ‘level’ of education was available, not years
- Different response categories of water, sanitation ‘other’
- All particular national variations are documented in the methodological notes for the year in which the MPI was released. That year is found also in Table 7.
Identification: Who is poor?

A person who is deprived in $1/3$ or more of the weighted indicators is MPI poor. Consider three-year old Nahato, from Uganda.
Nahato’s home is made of poles and mud. The only light is a solar lamp that also charges the cell phone.
Nahato, 3, is one of 10 children of her mother, Nambubi, who is 38 years old. Nahato’s elder siblings have dropped out of school as they cannot afford the fees, which are US$2.75 for four months.
Nambubi goes to the field at 7am to work in a neighbour’s field with her children. Often the remain their til 7pm. In the evening they chat as a family while waiting for the meal to be ready. Nambubi is ever worried about what they will eat, for it varies.
Nahato and her family are MPI poor. Yet she and her siblings are outgoing and confident.

At night sometimes they dance together to the music from a radio shared between neighbours.
Identification: Who is poor?

Nahato is poor: she and her family are deprived in half of the MPI weighted indicators.

The MPI doesn’t tell her whole story. But it tells an important part of it.
How do you calculate the MPI?

The MPI uses the Alkire & Foster (2011) method:

Formula:  $\text{MPI} = M_0 = H \times A$

1) **Incidence** or the headcount ratio ($H$) $\sim$ the percentage of people who are poor.

2) **Intensity of people’s deprivation** ($A$) $\sim$ the average share of dimensions (proportion of weighted deprivations) people suffer at the same time. It shows the joint distribution of their deprivations.
Multidimensional Poverty Measurement & Analysis
(OUP 2015): Alkire Foster Seth Santos Roche Ballon.

Statistical methods include:

- **Standard errors** and confidence intervals for all statistics
- **Statistical inference** for all comparisons (level/trend)
- **Validation** for component indicators, alone and jointly
- **Robustness tests** for cutoffs and weights

Axiomatic properties include:

- **Subgroup decomposability** and Subgroup consistency
- **Dimensional breakdown**, **Dimensional monotonicity**
- Ordinality, Symmetry, Scale and replication invariance,
- **Normalization**, Poverty and Deprivation Focus, Weak
- Monotonicity, and Weak Deprivation Re-arrangement
**Data: Surveys (MPI 2017)**

Details in: Alkire and Robles (2017);
Child Disaggregations with Jindra Vaz (2017)

Demographic & Health Surveys (DHS - 55)
Multiple Indicator Cluster Surveys (MICS - 38)
Pan–Arab Project for Family Health (PAPFAM – 3)

Additionally we used 6 special surveys covering Brazil (PNAD), China (CFPS), Ecuador (ECV), India (IHDS), Jamaica (JSLC) and South Africa (NIDS).

**Constraints:** Data are 2006-2016. Not all have precisely the same indicators.
Global MPI 2017: Update


• Disaggregation by age groups.
Data: Surveys (MPI 2017)
Details in: Alkire & Robles (2017)

Updated data for 25 countries

<table>
<thead>
<tr>
<th>Year</th>
<th>Datasets</th>
<th>Countries</th>
</tr>
</thead>
<tbody>
<tr>
<td>MPI 2017: 2006-2016</td>
<td>25</td>
<td>103</td>
</tr>
<tr>
<td>MPI 2016: 2005-2015</td>
<td>14</td>
<td>102</td>
</tr>
<tr>
<td>MPI 2015: 2004-2014</td>
<td>38</td>
<td>101</td>
</tr>
<tr>
<td>MPI 2014: 2002-2013</td>
<td>33</td>
<td>108</td>
</tr>
<tr>
<td>MPI 2013: 2002-2011</td>
<td>16</td>
<td>104</td>
</tr>
<tr>
<td>MPI 2012: 2001-2010</td>
<td>25</td>
<td>109</td>
</tr>
<tr>
<td>MPI 2010: 2000-2008</td>
<td>104</td>
<td>104</td>
</tr>
</tbody>
</table>


2017: 103 countries 2006-2016
of which
73 countries 2012-16

Plus: 988 Subnational Regions
MPI 2017:
Covers 5.4 billion people
living in six world regions
Aggregates use 2013
population figures

MPI countries by Region

<table>
<thead>
<tr>
<th>Region</th>
<th>Total Pop in region (M)</th>
<th>Population in MPI countries</th>
<th>% Pop covered</th>
</tr>
</thead>
<tbody>
<tr>
<td>Europe and Central Asia</td>
<td>494.4</td>
<td>145.3</td>
<td>29%</td>
</tr>
<tr>
<td>Latin America and Caribbean</td>
<td>605.2</td>
<td>494.5</td>
<td>82%</td>
</tr>
<tr>
<td>Arab States</td>
<td>372.2</td>
<td>316.8</td>
<td>85%</td>
</tr>
<tr>
<td>South Asia</td>
<td>1775.1</td>
<td>1677.5</td>
<td>94%</td>
</tr>
<tr>
<td>East Asia and the Pacific</td>
<td>2050.6</td>
<td>1949.1</td>
<td>95%</td>
</tr>
<tr>
<td>Sub-Saharan Africa</td>
<td>899.8</td>
<td>866.5</td>
<td>96%</td>
</tr>
</tbody>
</table>
### MPI Population Coverage by Income Category

**MPI 2017 covers:**
- 99% of people in **Low income countries**
- 99% of people in **Lower Middle Income Countries**
- 82% of people in **Upper Middle Income Countries**

- **92% of the combined population in these categories**

<table>
<thead>
<tr>
<th>Income Categories</th>
<th>Population in MPI countries (million)</th>
<th>Total Pop in regions</th>
<th>% Pop covered</th>
</tr>
</thead>
<tbody>
<tr>
<td>High income</td>
<td>1.6</td>
<td>1142.0</td>
<td>0%</td>
</tr>
<tr>
<td>Low income</td>
<td>574.8</td>
<td>579.8</td>
<td>99%</td>
</tr>
<tr>
<td>Lower middle income</td>
<td>2813.1</td>
<td>2842.5</td>
<td>99%</td>
</tr>
<tr>
<td>Upper middle income</td>
<td>2060.1</td>
<td>2517.7</td>
<td>82%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>5449.6</strong></td>
<td><strong>7081.9</strong></td>
<td><strong>76%</strong></td>
</tr>
</tbody>
</table>
Across 103 countries, 1.45 billion people are MPI poor.
Most poor people (72%) live in middle-income countries (MICS)

2013 Population Data

Where MPI poor people live:
National Income Category

<table>
<thead>
<tr>
<th>Category</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Upper middle</td>
<td>38%</td>
</tr>
<tr>
<td>Lower middle</td>
<td>52%</td>
</tr>
<tr>
<td>Low income</td>
<td>10%</td>
</tr>
</tbody>
</table>

Total population by income category

- Upper middle income: 6%
- Lower middle income: 66%
- Low income: 28%
- Total: 100%
Afghanistan (2015/16)
Chad (2015)

Chad MPI
0.552

% Contribution of Each Indicator to the MPI at the Sub-national Level

Lac  Wadi Fira

OPHI
Oxford Poverty & Human Development Initiative
Detailed figures are available for 988 subnational regions as well as for rural and urban areas.
Incidence of multidimensional poverty in Uganda disaggregated by household disability status

22% of people have a person with disability in their household

Incidence of MPI

Without disability: 69%
With disability: 76%

Without disability
With disability
Disaggregating the global MPI

- Across our 103 countries, 37% of the children are MPI poor
- 689 million children are living in multidimensional poverty
- Children are over-represented among MPI poor: they represent approximately one third of the population (34%) but almost half (48%) of the MPI poor
South Asia and Sub-Saharan Africa house 84% of poor children.
52% of poor children live in 4 countries

<table>
<thead>
<tr>
<th>Country</th>
<th>Share poor children (%)</th>
<th>Share children (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>India</td>
<td>31</td>
<td>24</td>
</tr>
<tr>
<td>Nigeria</td>
<td>8</td>
<td>5</td>
</tr>
<tr>
<td>Ethiopia</td>
<td>7</td>
<td>3</td>
</tr>
<tr>
<td>Pakistan</td>
<td>6</td>
<td>5</td>
</tr>
</tbody>
</table>

H (0-0.1, 0.1-0.3, 0.3-0.5, 0.5-0.7, 0.7-0.9, 0.9-1)
Children are poorer than adults in every indicator

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Children 0-17</th>
<th>Adults 18+</th>
</tr>
</thead>
<tbody>
<tr>
<td>Years of schooling</td>
<td>13%</td>
<td>7%</td>
</tr>
<tr>
<td>School attendance</td>
<td>14%</td>
<td>5%</td>
</tr>
<tr>
<td>Child mortality</td>
<td>18%</td>
<td>9%</td>
</tr>
<tr>
<td>Nutrition</td>
<td>22%</td>
<td>13%</td>
</tr>
<tr>
<td>Electricity</td>
<td>22%</td>
<td>10%</td>
</tr>
<tr>
<td>Sanitation</td>
<td>30%</td>
<td>16%</td>
</tr>
<tr>
<td>Water</td>
<td>15%</td>
<td>8%</td>
</tr>
<tr>
<td>Floor</td>
<td>26%</td>
<td>14%</td>
</tr>
<tr>
<td>Cooking Fuel</td>
<td>35%</td>
<td>19%</td>
</tr>
<tr>
<td>Asset Ownership</td>
<td>19%</td>
<td>17%</td>
</tr>
</tbody>
</table>
Younger children are the poorest

<table>
<thead>
<tr>
<th>Age 0 – 4</th>
<th>Age 5 – 9</th>
<th>Age 10 – 14</th>
<th>Age 15 – 17</th>
<th>Age 18 +</th>
</tr>
</thead>
<tbody>
<tr>
<td>Headcount ($H$)</td>
<td>37.2</td>
<td>41.5</td>
<td>37.5</td>
<td>30.1</td>
</tr>
<tr>
<td>Intensity ($A$)</td>
<td>53.1</td>
<td>53.8</td>
<td>51.7</td>
<td>48.5</td>
</tr>
<tr>
<td>$1.90/day ($H$)</td>
<td>21.0</td>
<td>21.5</td>
<td>18.7</td>
<td>14.6</td>
</tr>
</tbody>
</table>

- Size of figures reflects Headcount
- Colour of figures reflects Intensity
- Global MPI 2017 figures found at www.ophi.org.uk
- World Bank 2016 decomposition found at www.unicef.org
Harmonisation for time comparisons – Cote d’Ivoire

<table>
<thead>
<tr>
<th>Dimension/indicator</th>
<th>2005</th>
<th>2011/12</th>
<th>For comparison</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Health</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nutrition</td>
<td>✗</td>
<td>✓</td>
<td>✗</td>
</tr>
<tr>
<td>Child mortality</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td><strong>Education</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Years of schooling</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>School attendance</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td><strong>Living standard</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cooking fuel</td>
<td>✗</td>
<td>✓</td>
<td>✗</td>
</tr>
<tr>
<td>Improved sanitation</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Safe drinking water</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Electricity</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Flooring</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Assets</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
</tbody>
</table>

Notes: survey in 2005: DHS; survey in 2011/12: DHS
Harmonisation for time comparisons – Sierra Leone

Within indicator adjustments

- Indicators are strictly harmonized across surveys
- Example 1 - Nutrition indicator for Sierra Leone
  - Deprivation cutoff: Any adult or child with nutritional information is undernourished

<table>
<thead>
<tr>
<th>Nutritional info for</th>
<th>2008</th>
<th>2013</th>
<th>For comparison</th>
</tr>
</thead>
<tbody>
<tr>
<td>Women</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Men</td>
<td>✗</td>
<td>✓</td>
<td>✗</td>
</tr>
<tr>
<td>Children</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
</tbody>
</table>

*Notes: survey in 2008: DHS; survey in 2013: DHS*
Harmonisation for time comparisons – Central African Republic

Within indicator adjustments

- Example 2 - asset indicator for Central African Republic
  - Deprivation cutoff: The household owns at most one radio, telephone, TV, bike, motorbike, or refrigerator; and does not own a car or truck

<table>
<thead>
<tr>
<th>Assets</th>
<th>2000</th>
<th>2010</th>
<th>For comparison</th>
</tr>
</thead>
<tbody>
<tr>
<td>Radio</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Telephone</td>
<td>x</td>
<td>✓</td>
<td>x</td>
</tr>
<tr>
<td>Mobile phone</td>
<td>x</td>
<td>✓</td>
<td>x</td>
</tr>
<tr>
<td>TV</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Bike</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Motorbike</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Refrigerator</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Car or truck</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Example: MPI reduction in Africa

• Coverage:
  - 35 Sub-Saharan African countries
  - 234 sub-national regions
  - covering 807 million people


• Alkire, Sabina, José Manuel Roche and Ana Vaz. “Changes over time in multidimensional poverty: Methodology and results for 34 countries,” *World Development*, 94: 232-249, 2017.”

Rwanda, Ghana, Liberia, Comoros, DRC and Tanzania had the fastest reduction of MPI in certain periods.
### Annualized % Relative Change

South Africa had the fastest Relative MPI reduction followed by Congo, Ghana & Comoros.
Annualized Changes in MPI vs. $1.90 (H) for Africa
<table>
<thead>
<tr>
<th>Metric</th>
<th>2005</th>
<th>2011/12</th>
</tr>
</thead>
<tbody>
<tr>
<td>MPI - Poverty</td>
<td>0.420 (.007)</td>
<td>0.343 (.009)</td>
</tr>
<tr>
<td>H - Incidence</td>
<td>61.5% (1.4)</td>
<td>55.2% (1.1)</td>
</tr>
<tr>
<td>A - Intensity</td>
<td>57.4% (.7)</td>
<td>55.1% (.4)</td>
</tr>
</tbody>
</table>

| Number of Poor         | 10.7M       | 10.9M       |

MPI, H and A reduced, but population growth led to an increase in the number of poor people.
How did multidimensional poverty go down?

Cote d’Ivoire reduced MPI by putting children in school, improving sanitation and water, reducing child mortality and increasing assets.

Percentage of people who are MPI poor and deprived in each indicator, 2005 and 2011/12.
Where did poverty go down?
Level of MPI and Speed of MPI Reduction Côte d’Ivoire

In Côte d’Ivoire, Nord Est, the poorest region, reduced MPI fastest. Faster than any African country except Rwanda. Number of poor went down also.

Size of bubble is proportional to the number of poor in first year of comparison.
Countries with highest reduction for poorest region

- Eight countries have highest reduction in poorest region of country

| Country                      | Region        | Pop. share $t_1$ | Pop. share $t_2$ | $M_0$ in $t_1$ | $\Delta M_0$ | $\bar{\Delta} M_0$ | $\bar{\Delta} H$ | $\bar{\Delta} A$ |
|------------------------------|---------------|------------------|------------------|----------------|----------------|---------------------|------------------|----------------|------------------|
| Cote d’Ivoire (2005 - 2011/12) | Nord-Est      | 0.053            | 0.044            | 0.526          | -0.148***      | -0.023              | -0.020           | -0.014         |
| Kenya (2003 - 2008/09)       | North Eastern | 0.027            | 0.027            | 0.681          | -0.146***      | -0.026              | -0.017           | -0.016         |
| Kenya (2003 - 2014)          | North Eastern | 0.027            | 0.028            | 0.681          | -0.150***      | -0.014              | -0.010           | -0.008         |
| Liberia (2007 - 2013)        | North Central | 0.357            | 0.298            | 0.558          | -0.131***      | -0.022              | -0.024           | -0.009         |
| Mozambique (2003 - 2011)     | Nampula       | 0.200            | 0.155            | 0.594          | -0.192***      | -0.024              | -0.020           | -0.014         |
| Malawi (2004 - 2010)         | Southern      | 0.454            | 0.450            | 0.393          | -0.057***      | -0.009              | -0.011           | -0.005         |
| Namibia (2000 - 2006/7)      | Omaheke       | 0.029            | 0.043            | 0.343          | -0.148***      | -0.023              | -0.035           | -0.010         |
| Namibia (2000 - 2013)        | Omaheke       | 0.029            | 0.029            | 0.343          | -0.134**       | -0.010              | -0.017           | -0.003         |
| Niger (2006 - 2012)          | Tillabéri     | 0.142            | 0.128            | 0.757          | -0.133***      | -0.022              | -0.009           | -0.017         |
| Nigeria (2008 - 2013)        | North East    | 0.135            | 0.149            | 0.563          | -0.074***      | -0.015              | -0.017           | -0.005         |

Notes:* $p < 0.10$ ** $p < 0.05$ , *** $p < 0.01$ (two-tailed tests).
The Global Monitoring Report 2015: Released 8 October 2015 by the World Bank

To sustainably end extreme poverty and promote shared prosperity, more attention is needed to the non-income dimensions of development. First, to “end poverty in all of its forms everywhere,” it must be recognized that poverty is multidimensional. Income poverty is typically accompanied by inadequate access to education, health, housing, employment, and personal security.

Trends in income poverty and MPI poverty may not match (as in Indian states 1999-2006).

**FIGURE 1.5** A multidimensional lens suggests slower poverty reduction progress in India
At-A-Glance


Each indicator was significantly reduced by at least one country, but no indicator reduced across all countries

10 countries significantly reduced poverty in all sub-national regions for at least one comparison

The two countries with 12 years of data – Gabon and Comoros – both more than halved their MPI incidence
8 data tables are updated twice a year.

Global MPI Data Tables for 2017

Brief methodological note on the Summer 2017 updates (pdf).

<table>
<thead>
<tr>
<th>Table</th>
<th>Contents</th>
<th>Download</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tables 1.1-2.3</td>
<td>Main MPI results, headcount ratio by dimensions, contribution of deprivations and other measures of poverty and wellbeing at the national level (103 countries)</td>
<td></td>
</tr>
<tr>
<td>Tables 3.1-4.3</td>
<td>Multidimensional poverty, headcount ratio by dimension and contribution of deprivations in rural and urban areas (102 countries)</td>
<td></td>
</tr>
<tr>
<td>Tables 5.1-5.4</td>
<td>Multidimensional poverty, headcount ratio by dimension and contribution of deprivations at the sub-national level (988 regions of 78 countries)</td>
<td></td>
</tr>
<tr>
<td>Tables 6.1-6.6</td>
<td>Changes to MPI poverty over time, including annualised changes in headcount ratio and intensity, changes in each indicator at the national level and changes in destitution where available (50 countries)</td>
<td></td>
</tr>
<tr>
<td>Table 7</td>
<td>The table presents an archive of all MPI estimations published since 2010. These are not harmonized for comparisons over time (for harmonized estimations see Table 6). Table 7 covers 256 estimations for 120 countries in 2017.</td>
<td></td>
</tr>
<tr>
<td>Table 8</td>
<td>Multidimensional poverty, headcount ratio by dimensions and contribution of deprivations for different age groups at the national level (103 countries)</td>
<td></td>
</tr>
</tbody>
</table>
What is Currently Computed & Reported

• Three Poverty Lines:
  – 20% (Vulnerable), 33% (MPI), 50% (Severe)

• Two Vectors of ‘Deprivation Cutoffs’ for each indicator
  – Poverty & Destitution, for k=33%

• Dimensional and Indicator Breakdown; % Contributions:
  – For 20%, 33%, plus uncensored levels of deprivation in each indicator

• Disaggregated Detail:
  – Rural-Urban; Age Cohort; Sub-national Regions

• MPI-specific Dataset Information:
  – Indicators missing, SE/CI, Retained simple, Non-response by indicator

• Strictly Harmonized, Comparable MPI over time (Table 6)

• All MPIs ever reported (240 datasets, 120 countries)
  
  Inequality among the poor.
**MPI - Country Briefings**

<table>
<thead>
<tr>
<th>Afghanistan</th>
<th>Ghana</th>
</tr>
</thead>
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<tr>
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<td>Armenia</td>
<td>Guyana</td>
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<td>Azerbaijan</td>
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<td>Bangladesh</td>
<td>Honduras</td>
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<td>Barbados</td>
<td>India</td>
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<td>Bosnia and Herzegovina</td>
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<td>Burkina Faso</td>
<td>Lao PDR</td>
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<td>China</td>
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<td>Comoros</td>
<td>Mali</td>
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<td>Congo</td>
<td>Mauritania</td>
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<td>Congo DR</td>
<td>Mexico</td>
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<td>Côte d'Ivoire</td>
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<td>Ghana</td>
<td>Nigeria</td>
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<table>
<thead>
<tr>
<th>Pakistan</th>
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<tbody>
<tr>
<td>Palestine, State of</td>
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<tr>
<td>Peru</td>
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<td>Philippines</td>
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<td>Rwanda</td>
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<td>Saint Lucia</td>
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<td>Sao Tome and Principe</td>
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<td>Uzbekistan</td>
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<td>Viet Nam</td>
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<td>Yemen</td>
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<tr>
<td>Zambia</td>
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<tr>
<td>Zimbabwe</td>
</tr>
</tbody>
</table>
Country Briefings (10 Pages): Contents

• Gives links to resources. Explains structure of MPI. Each section has explanatory text.

A. Headline: Provides MPI, H, A, inequality, Severe, Vulnerability, Destitution at-a-glance
B. Bar Graphs: MPI (H), $1.90/day, $3.10/day, National poverty line (with year of data)
C. Summary Table (MPI, H, A), $1.90, $3.10, National, Gini
D. Bar Graphic with dots of MPI(H), $1.90, and Destitution(H)
E. Censored Headcount ratios in each of 10 indicators - Bar
F. Censored Headcount ratios in each of 10 indicators - Spider Graph
G. Absolute & Relative Contribution of each indicator to MPI by Rural-Urban Areas
H. Intensity - Pie chart showing deprivation score 'bands' from 33% to 100% by decile.
I. Provides Headcount Ratio for k=33.3%, 40%, 50%, 60%, 70%, 80%, 90%
J. Table - Subnational: MPI, H, A, Vulnerable, Severe, Destitute, Inequality among Poor, Population Share for Rural/urban and Subnational Regions.
K. Map showing Subnational Poverty (fixed scale)
L. H of MPI poor & Destitute by Subnational (bar chart)
M. Composition of MPI by Subnational Regions
N. Changes over time (if Harmonized Data)
# Chad

**Oxford Poverty and Human Development Initiative (OPHI)**

*[OPHI website]*

**OPHI Country Briefing December 2016: Chad**

Global Multidimensional Poverty Index (MPI) At a Glance

This Country Briefing presents the results of the Multidimensional Poverty Index (MPI) and explains key findings graphically. For a full explanation of the MPI, along with source information, international comparisons and details of the source available in the MPI Database, please visit www.ophi.org.uk/multidimensional-poverty-index.


**Inside the MPI**

The Global MPI has three dimensions and 10 indicators, which are shown in the box below. Each dimension is equally weighted, each indicator within a dimension is equally weighted, and these weights are shown in brackets within the clusters. Details of the indicators can be found at the back of this briefing.

---

**A. MPI Results at the National Level**

<table>
<thead>
<tr>
<th>Survey</th>
<th>Year</th>
<th>Multidimensional Poverty Index (MPI = H×A)</th>
<th>Percentage of Poor People (H) (k = 33.3%)</th>
<th>Average Intensity Across the Poor (A)</th>
<th>Percentage of Population Vulnerable to Poverty (k = 20%-33.3%)</th>
<th>In Severe Poverty (k = 50%)</th>
<th>Destitute</th>
<th>Inequality Among the MPI Poor</th>
</tr>
</thead>
<tbody>
<tr>
<td>DHS</td>
<td>2014/15</td>
<td>0.552</td>
<td>87.1%</td>
<td>63.4%</td>
<td>9.1%</td>
<td>59.7%</td>
<td>62.3%</td>
<td>0.276</td>
</tr>
</tbody>
</table>

---

**Country Profile**

**Global Multidimensional Poverty Index (MPI)**

A person is identified as multidimensionally poor or “MPI poor” if they are deprived in at least one third of the weighted indicators shown above in other words, the severity of poverty (k) is 33.3%.

The proportion of the population that is multidimensionally poor is the incidence of poverty, or headcount ratio (H). The average proportion of indicators in which poor people are deprived is described as the intensity of their poverty (A). The MPI is calculated by multiplying the incidence of poverty by the average intensity of poverty across the poor (H×A) as a result, it reflects both the share of people in poverty and the degree to which they are deprived.

If a country is deprived in 30-33.3% of the weighted indicators they are considered “Vulnerable to Poverty”, and if they are deprived in 33.3% or more (k=50%), they are identified as being “Poor”.

Those identified as “Deprived” are deprived at a bare minimum 3rd of more extreme indicators is described at the back of this briefing. For example, two or more children in the household have died (rather than any one in the household) at least one year of schooling rather than five years, the household practices open defecation, the household has no access to clean water (rather than not more than one). These definitions are currently available for more than 100 countries covered in the Global MPI, where it is not available, it is not reported in the back briefing. For details, see Alesina, Consolini and Sith (2014), available at: www.ophi.org.uk/multidimensional-poverty-index.

The level of inequality among the poor is calculated using a variance, decomposable inequality measure to capture inequality in deprivation creation among the poor and disparities across groups. For details of the measure and how it is applied, see Seth and Jahan (2014), available at: https://www.ophi.org.uk/multidimensional-poverty-index.

---

**A. MPI Results at the National Level**

<table>
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<td>62.3%</td>
<td>0.276</td>
</tr>
</tbody>
</table>
Comparing the MPI with Other Poverty Measures

The year of the survey is provided below each column in chart B. The height of the first column denotes the percentage of people who are MPI poor (also called the incidence or headcount ratio). The second and third columns denote the percentages of people who are poor according to the $1.90 a day income poverty line and $3.10 a day line, respectively. The final column denotes the percentage of people who are poor according to the national income or consumption poverty line. The table on the right-hand side reports various descriptive statistics for the country. The monetary poverty statistics are taken from the year closest to the year of the survey used to calculate the MPI. Where a survey was conducted over two calendar years, we take the second year as a reference.

C. Summary

Multidimensional Poverty Index 0.552
Percentage of MPI Poor (H) 87.1%
Average Intensity Across the Poor (A) 63.4%
Percentage of Income Poor ($1.90 a day)‡ 38.4%
Percentage of Income Poor ($3.10 a day)‡ 64.8%
Percentage of Poor (National Poverty Line)‡ 46.7%
Income Inequality (Gini index)‡ 0.433

Comparing the Headcount Ratios of MPI Poor and $1.90/day Poor

Chart D shows the percentage of people who are MPI poor (also called the incidence or headcount ratio) and the percentage of people who are also destitute (deprived in at least one third of more extreme indicators) in the developing countries analysed.

The column denoting this country is in grey, with other countries shown in colour. The percentage of people who are MPI poor is ordinarily shown in orange, and the percentage of people who are also destitute is shown in red. The height at each dot denotes the percentage of people who are income poor according to the $1.90 a day poverty line in each country. Chart B tells you the year the data comes from for this country. Dots are only shown where the income poverty data available are taken from a survey fielded within three years of the MPI survey year.

D. Headcount Ratios of MPI Poor, Destitute and $1.90/day Poor

Key
Percentage of people who are:
- MPI Poor
- Destitute
- $1.90/day Poor

Chad:

Chad:

Incidence of Deprivation in Each of the MPI Indicators

The MPI uses 10 indicators to measure poverty in three dimensions: education, health and living standards (see the back of this briefing for details). The bar chart to the left reports the proportion of the population that is poor and deprived in each indicator, also called the censored headcount ratio. We do not include the deprivations of non-poor people. The spider diagram to the right shows the level of these same deprivations in rural and urban areas, together with the national aggregate. Patterns of deprivation may differ in rural and urban areas. The MPI is also the weighted sum of these deprivations, which makes it useful for monitoring change.

E. Censored Deprivations in each Indicator

F. Percentage of the Population who are MPI Poor and Deprived

Decomposition of MPI by Region

The MPI can be decomposed by different population subgroups, then broken down by dimension, to show how the composition of poverty differs between different regions or groups. On the left-hand side of column chart G, the height of each of the three bars shows the level of MPI at the national level, for urban areas, and for rural areas, respectively. Inside each bar, different colours represent the contribution of different weighted indicators to the overall MPI. On the right-hand side of chart G, the colours inside each bar denote the percentage contribution of each indicator to the overall MPI, and all bars add up to 100%. This enables an immediate visual comparison of the composition of poverty across regions.

G. Contribution of Each Indicator to Overall Poverty at the National Level, for Urban Areas, and for Rural Areas
Chad:

H. Intensity of Deprivation Among MPI Poor

Percentage of MPI poor people deprived in x% of the MPI weighted indicators, where x% is:

- 33.3%-39.9%
- 40%-49.9%
- 50%-59.9%
- 60%-69.9%
- 70%-79.9%
- 80%-89.9%
- 90%-100%

The sub-national level

In addition to providing data on multidimensional poverty at the national level, the MPI can also be broken down by sub-national regions to show disparities in poverty within countries. This analysis can be easily performed when the survey used for the MPI is representative at the sub-national level.

The following table shows the MPI value and its two components at the sub-national level: the incidence of poverty (H) and the average intensity of deprivation across the poor (A). The fifth and sixth columns present the percentage of the population Vulnerable to Poverty and living in Severe Poverty, respectively (see page 1). The seventh column presents the percentage of the population identified as Destitute, or deprived according to the most extreme indicators (see details at the back of this briefing).

The second-to-last column presents the level of inequality among the poor, calculated using a decomposable inequality measure (see page 10). The last column presents the population share of each region, which has been obtained by using the sampling weight in the respective survey dataset, applied to the final sample used for the computation of the reported poverty statistics in this country profile. The population-weighted regional figures on MPI, headcount ratio (H), and intensity (A), sum to the national figures on MPI, H and A.
### J. Multidimensional Poverty across Sub-national Regions

<table>
<thead>
<tr>
<th>Region</th>
<th>MPI (H x A)</th>
<th>H (Incidence)</th>
<th>A (Intensity)</th>
<th>Vulnerable to Poverty k = 20%-33.3%</th>
<th>In Severe Poverty k ≥ 50%</th>
<th>Destitute</th>
<th>Inequality Among the MPI Poor</th>
<th>Population Share</th>
</tr>
</thead>
<tbody>
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<tr>
<td>Urban</td>
<td>0.351</td>
<td>64.8%</td>
<td>54.1%</td>
<td>18.4%</td>
<td>34.9%</td>
<td>-</td>
<td>-</td>
<td>22.1%</td>
</tr>
<tr>
<td>Rural</td>
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<td>93.4%</td>
<td>65.2%</td>
<td>6.4%</td>
<td>66.8%</td>
<td>-</td>
<td>-</td>
<td>77.9%</td>
</tr>
<tr>
<td>Ndjaména</td>
<td>0.257</td>
<td>52.7%</td>
<td>48.7%</td>
<td>19.4%</td>
<td>25.7%</td>
<td>18.4%</td>
<td>0.186</td>
<td>7.8%</td>
</tr>
<tr>
<td>Moyen Chari</td>
<td>0.411</td>
<td>74.1%</td>
<td>55.5%</td>
<td>18.8%</td>
<td>35.9%</td>
<td>35.6%</td>
<td>0.235</td>
<td>5.4%</td>
</tr>
<tr>
<td>Logone occidental</td>
<td>0.440</td>
<td>79.1%</td>
<td>55.6%</td>
<td>14.6%</td>
<td>38.0%</td>
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<td>0.208</td>
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<tr>
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<td>0.479</td>
<td>85.0%</td>
<td>56.3%</td>
<td>12.5%</td>
<td>44.3%</td>
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<tr>
<td>Tandjilé</td>
<td>0.487</td>
<td>84.3%</td>
<td>57.7%</td>
<td>14.1%</td>
<td>43.5%</td>
<td>52.1%</td>
<td>0.231</td>
<td>5.9%</td>
</tr>
<tr>
<td>Logone oriental</td>
<td>0.504</td>
<td>86.3%</td>
<td>58.4%</td>
<td>12.5%</td>
<td>46.0%</td>
<td>57.3%</td>
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<tr>
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<td>0.509</td>
<td>86.1%</td>
<td>59.2%</td>
<td>13.0%</td>
<td>50.0%</td>
<td>54.2%</td>
<td>0.229</td>
<td>7.5%</td>
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<td>Mandoul</td>
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<td>51.7%</td>
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<td>0.230</td>
<td>7.0%</td>
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<tr>
<td>Borkou Tibesti</td>
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<td>60.4%</td>
<td>8.8%</td>
<td>58.8%</td>
<td>64.5%</td>
<td>0.236</td>
<td>0.5%</td>
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<tr>
<td>Ennedi</td>
<td>0.625</td>
<td>96.8%</td>
<td>64.6%</td>
<td>2.5%</td>
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<td>0.5%</td>
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<td>Guéra</td>
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<td>67.4%</td>
<td>3.6%</td>
<td>72.6%</td>
<td>67.1%</td>
<td>0.265</td>
<td>5.9%</td>
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<td>66.7%</td>
<td>3.0%</td>
<td>79.7%</td>
<td>83.8%</td>
<td>0.234</td>
<td>4.1%</td>
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<tr>
<td>Hadjer Lamis</td>
<td>0.654</td>
<td>95.4%</td>
<td>68.6%</td>
<td>3.6%</td>
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<td>0.243</td>
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<tr>
<td>Barh El Gazal</td>
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<td>68.3%</td>
<td>3.9%</td>
<td>83.0%</td>
<td>79.3%</td>
<td>0.211</td>
<td>1.4%</td>
</tr>
<tr>
<td>Batha</td>
<td>0.659</td>
<td>95.7%</td>
<td>68.8%</td>
<td>3.6%</td>
<td>81.2%</td>
<td>84.0%</td>
<td>0.206</td>
<td>4.5%</td>
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<tr>
<td>Salamat</td>
<td>0.678</td>
<td>97.8%</td>
<td>69.4%</td>
<td>1.2%</td>
<td>81.2%</td>
<td>80.5%</td>
<td>0.267</td>
<td>2.2%</td>
</tr>
<tr>
<td>Ouaddaï</td>
<td>0.683</td>
<td>95.3%</td>
<td>71.7%</td>
<td>2.7%</td>
<td>81.4%</td>
<td>83.1%</td>
<td>0.226</td>
<td>5.7%</td>
</tr>
<tr>
<td>Kanem</td>
<td>0.696</td>
<td>98.5%</td>
<td>70.7%</td>
<td>1.4%</td>
<td>85.4%</td>
<td>82.1%</td>
<td>0.233</td>
<td>3.9%</td>
</tr>
<tr>
<td>Sila</td>
<td>0.697</td>
<td>98.9%</td>
<td>70.4%</td>
<td>1.0%</td>
<td>84.5%</td>
<td>84.7%</td>
<td>0.206</td>
<td>2.0%</td>
</tr>
<tr>
<td>Wadi Fira</td>
<td>0.709</td>
<td>99.0%</td>
<td>71.6%</td>
<td>0.8%</td>
<td>82.1%</td>
<td>91.3%</td>
<td>0.211</td>
<td>2.4%</td>
</tr>
<tr>
<td>Lac</td>
<td>0.744</td>
<td>98.1%</td>
<td>75.9%</td>
<td>0.9%</td>
<td>89.8%</td>
<td>91.9%</td>
<td>0.214</td>
<td>5.3%</td>
</tr>
</tbody>
</table>
Chad:

K. Mapping Poverty Rates at the Sub-national Level

Chad MPI
0.552

The boundaries and names shown and the designations used on this map do not imply official endorsement or acceptance by OPHI or the University of Oxford. This map is intended for illustrative purposes only.

Graph L. below, shows the percentage of people who are MPI poor and - where available - the percentage of people who are also destitute in each sub-national region, from the regions with the highest levels of poverty on the left to the regions with the lowest levels of poverty on the right.

L. Headcount Ratios of the MPI Poor and Destitute at the Sub-national Level

M. Percentage Contribution of Each Indicator to the MPI at the Sub-national Level
Changes in Multidimensional Poverty over time

For some countries, we have comparable data from more than one time period, enabling us to analyse how multidimensional poverty has changed over time; see Alkire, Roche and Vaz (2014) for details. Table N, below, compares the MPI, Incidence (H), Intensity (A) and incidence of destitution (H^D) in the years shown, at the national level and among urban and rural populations.

Please note that in some cases the MPI reported here (MPI_r) does not coincide with the Global MPI. The global MPI is estimated using the maximum information available for each year. In countries where changes in the survey design affected comparability across time, MPI parameters have been strictly standardised.

### N. Changes in Multidimensional Poverty and Destitution over Time

<table>
<thead>
<tr>
<th>Time Period</th>
<th>Region</th>
<th>MPI_r</th>
<th>H_r (Incidence)</th>
<th>A_r (Intensity)</th>
<th>H^D_r (Destitute)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2005</td>
<td>National</td>
<td>0.461</td>
<td>82.9</td>
<td>55.6</td>
<td>35.0</td>
</tr>
<tr>
<td>2010</td>
<td>National</td>
<td>0.33</td>
<td>66.1</td>
<td>49.9</td>
<td>24.2</td>
</tr>
<tr>
<td>2014/15</td>
<td>National</td>
<td>0.259</td>
<td>53.9</td>
<td>48.1</td>
<td>-</td>
</tr>
<tr>
<td>2005</td>
<td>Urban</td>
<td>0.299</td>
<td>58.7</td>
<td>50.9</td>
<td>17.2</td>
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<tr>
<td>2010</td>
<td>Urban</td>
<td>0.189</td>
<td>40.5</td>
<td>46.7</td>
<td>10.1</td>
</tr>
<tr>
<td>2005</td>
<td>Rural</td>
<td>0.489</td>
<td>87.2</td>
<td>56.1</td>
<td>38.2</td>
</tr>
<tr>
<td>2010</td>
<td>Rural</td>
<td>0.352</td>
<td>70.2</td>
<td>50.2</td>
<td>26.4</td>
</tr>
</tbody>
</table>
Population in multidimensional poverty (H) (%) - MP...

- Other indicators
  - Human development index (range 0 to 1)
  - Gini Index (coefficient)
  - GNI per capita (PPP 2010 $)
  - Population living on less than $1.90/day (%)
  - Population living on less than $2/day (%)
  - Population living below the national poverty line (%)

- Contributions of dimensions to overall poverty
  - Contribution of Education indicators to overall poverty (%)
    - National
    - Rural
    - Urban
  - Contribution of Health indicators to overall poverty (%)
  - Contribution of Living Standard indicators to overall poverty (%)
  - Contribution of Living Standard indicators to overall poverty (% (k=0.2))

- Contributions of indicators to overall poverty
  - Contribution of Asset Ownership to overall poverty (%)
  - Contribution of Asset Ownership to overall poverty (% (k=0.2))
  - Contribution of Asset Ownership to overall poverty (MPI) (range 0 to 1)
Disaggregate Cote d’Ivoire MPIs
(or H, A, indicator) (by region, subgroup)
Global MPI: Headline + Disaggregated detail

“Poverty measures should reflect the multi-dimensional nature of poverty.”

Ban Ki Moon (2014), Former UN Secretary General
Global MPI in Dialogue
1.90/Day

Global MPI

Global MPI

0 - 0.05
0.05 - 0.1
0.1 - 0.2
0.2 - 0.3
0.3 - 0.4
0.4 - 0.5
0.5+
Missing values
MPI and $1.90 poverty: data

- Of the 103 countries, we have $1.90 for 86 countries.

- In 10 countries MPI and $1.90 come from the same year.
- In 24 countries $1.90 data are More Recent.
- In 52 countries MPI data are More Recent.

- Low or Middle Income Countries with MPI but not $1.90 include: Afghanistan, Algeria, Belize, Egypt, Guyana, Iraq, Jordan, Libya, Saint Lucia, Myanmar, Somalia, South Sudan, Suriname, Syrian Arab Republic, Turkmenistan, Yemen.

High income countries with MPI but not $1.90: Barbados, Trinidad and Tobago, (UAE).
MPI and $1.90 poverty: data

• If we consider MPI & $1.90 estimations from 2003 on, we lack global MPI estimations for the following 22 countries for which $1.90 estimations are available:

  • Botswana, Bulgaria, Chile, Costa Rica, Fiji, Iran, Kiribati, Kosovo, Latvia, Lithuania, Malaysia, Mauritius, Panama, Papua New Guinea, Poland, Romania, Samoa, Seychelles, Solomon Islands, Tonga, Venezuela

• Some have official National MPIs: Chile, Costa Rica, Panama
• Others are designing National MPIs: Malaysia, Seychelles
MPI (H) 2017 and $1.90 a Day (2013)

Multidimensional H 2017 versus Poverty Headcount Ratio at $1.90 (2013)

Size of bubble proportional to population size
Pearson correlation = 0.738
Spearman correlation = 0.768
Number of countries = 91, all imputed

Variables:
- MPI (H) 2017
- Poverty Headcount Ratio at $1.90 (2013)

Legend:
- Upper middle and high income
- Lower middle income
- Low income

Countries:
- ALB
- AZE
- BDI
- BEN
- BFA
- BGD
- BLZ
- BOL
- BRA
- BTN
- CAF
- CHN
- CIV
- CMR
- COD
- COG
- COM
- DJI
- DOM
- ECU
- ETH
- GAB
- GHA
- GMB
- GNB
- GTM
- GUY
- HND
- HTI
- IND
- KAZ
- KGZ
- KHM
- LA
- LCA
- LBR
- LSO
- MAR
- MRT
- MD
- MDG
- MLI
- MOL
- MWI
- NGA
- NPL
- PER
- PHL
- QAT
- RWA
- SDN
- SEN
- SLE
- SSD
- TCD
- TJM
- TKM
- TLS
- TZA
- TUN
- UZB
- VUT
- ZAF
- ZMB
- ZWE

Notes:
- MPI (H) 2017
- Multidimensional H 2017
- Poverty Headcount Ratio at $1.90 (2013)
Comparing the Headcount Ratios of MPI Poor and Destitute, and $1.90/day Poor
Comparing the Headcount Ratios of MPI Poor and $1.90/day Poor

- **Destitute**
- **MPI Poor people**
- **$1.90 a day**
Global Peace Index

- 23 indicators of the violence or fear of violence.
- All scores for each indicator are normalized on a scale of 1-5: qualitative indicators are banded into five groupings and quantitative ones are scored from 1-5, to the third decimal point” (p. 113). ”
- Two subcomponent weighted indices were then calculated from the GPI group of indicators:
  1. A measure of how at peace internally a country is
  2. A measure of how at peace externally a country is

The GPI has a weight of 60% on internal peace and 40% on external peace” (p. 114).

Robustness tests are conducted to weights.
• Global Peace Index: 23 Components

- Perceptions of criminality
- Security officers and police rate
- Homicide rate
- Incarceration rate
- Access to small arms
- Intensity of internal conflict
- Violent demonstrations
- Violent crime
- Political instability
- Political Terror
- Weapons imports
- Terrorism impact
- Deaths from internal conflict
- Internal conflicts fought
- Military expenditure (% GDP)
- Armed services personnel rate
- UN peacekeeping funding
- Nuclear and heavy weapons capabilities
- Weapons exports
- Refugees and IDPs
- Neighbouring countries relations
- Number, duration and role in external conflicts
- Deaths from external conflict
MPI with Global Peace Index 2017

MPI 2017 versus Global Peace Index in 2017

- Income Group
  - Upper middle and high income
  - Lower middle income
  - Low income

Size of bubble proportional to population size
Pearson correlation = 0.171
Spearman correlation = 0.106
Number of countries = 95
• **Social Progress Index**

—”The overall Social Progress Index score is a simple average of the three dimensions: Basic Human Needs, Foundations of Wellbeing, and Opportunity. Each dimension, in turn, is the simple average of its four components”

· Principal component analysis [PCA] is used to help select the most relevant indicators and to determine the weights of the indicators making up each component”

· After performing PCA in each component, we assess goodness of fit using the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy”

· The final step in calculating each component is to provide transparency and comparability across the different components. Our goal is to transform the values so that each component score can be easily interpreted, both relative to other components and across different countries. To do so, we calculate scores using an estimated best- and worst-case scenario dataset in addition to the individual country data”
Social Progress Index: Components

– Basic human needs:
  * Nutrition and basic medical care
  * Water and sanitation
  * Shelter
  * Personal safety

– Foundations of wellbeing:
  * Access to basic knowledge
  * Access to information and communication
  * Health and wellness
  * Environmental quality

– Opportunity:
  * Personal rights
  * Personal freedom and choice
  * Tolerance and inclusion
  * Access to advanced education

– Nutrition and Basic Medical Care: Undernourishment, Depth of food deficit, Maternal mortality rate, Child mortality rate, Deaths from infectious diseases

– Water and Sanitation: Access to piped water, Rural access to improved water source, Access to improved sanitation facilities

– Shelter: Availability of affordable housing, Access to electricity, Quality of electricity supply, Household air pollution attributable deaths
MPI 2017 versus Social Progress Index 2017

Size of bubble proportional to population size

Pearson correlation = -0.86
Spearman correlation = -0.891
Number of countries = 73
MPI with Legatum Prosperity Index 2016

MPI 2017 versus Legatum Propserity Index 2016

Income Group
- Upper middle and high income
- Lower middle income
- Low income

Size of bubble proportional to population size
Pearson correlation = −0.671
Spearman correlation = −0.689
Number of countries = 85
MPI with Ease of Doing Business 2013

MPI 2017 versus Ease of Doing Business Index 2013

- Size of bubble proportional to population size
- Pearson correlation = -0.63
- Spearman correlation = -0.633
- Number of countries = 101
MPI 2017 vs Fragile State Index 2017

Pearson correlation = 0.694
Spearman correlation = 0.719
Number of countries = 100

Size of bubble proportional to population size

Income Group
- Upper middle and high income
- Lower middle income
- Low income

MPi 2017 versus Fragile State Index 2017
MPI 2017 versus GDP per capita (constant 2010 US$, 2016)

Income Group:
- Upper middle and high income
- Lower middle income
- Low income

Size of bubble proportional to population size
Pearson correlation = -0.618
Spearman correlation = -0.81
Number of countries = 97
Size of bubble proportional to population size
Pearson correlation = -0.898
Spearman correlation = -0.91
Number of countries = 102
Composite Indicators vs Counting

Order of aggregation differs.

- Traditional composite marginal measures aggregate first across units in a society for a given dimension, standardize, then aggregate across dimensions.

- Multidimensional Counting Measures first aggregate across dimensions for the same unit (person), then across units in the society.
Order of Aggregation: Composite

Joint Distribution I

<table>
<thead>
<tr>
<th>Income</th>
<th>Education</th>
<th>Shelter</th>
<th>Water</th>
</tr>
</thead>
<tbody>
<tr>
<td>D</td>
<td>ND</td>
<td>ND</td>
<td>ND</td>
</tr>
<tr>
<td>ND</td>
<td>D</td>
<td>ND</td>
<td>ND</td>
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<tr>
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<td>ND</td>
<td>D</td>
<td>ND</td>
</tr>
<tr>
<td>ND</td>
<td>ND</td>
<td>ND</td>
<td>D</td>
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</table>

Joint Distribution II

<table>
<thead>
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<th>Income</th>
<th>Education</th>
<th>Shelter</th>
<th>Water</th>
</tr>
</thead>
<tbody>
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<td>ND</td>
<td>ND</td>
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<tr>
<td>D</td>
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Joint Distribution II

<table>
<thead>
<tr>
<th>Income</th>
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<th>Shelter</th>
<th>Water</th>
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</tr>
<tr>
<td>D</td>
<td>D</td>
<td>D</td>
<td>D</td>
</tr>
</tbody>
</table>

ND: Not Deprived
D: Deprived

Marginal
Order of Aggregation: Counting
Shows who is deprived in more indicators at the same time

<table>
<thead>
<tr>
<th>Joint Distribution I</th>
<th>Joint Distribution II</th>
</tr>
</thead>
<tbody>
<tr>
<td>Income</td>
<td>Education</td>
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<td>1</td>
<td>ND</td>
</tr>
<tr>
<td>1</td>
<td>ND</td>
</tr>
</tbody>
</table>

ND: Not Deprived
D: Deprived
Kinds of Measures:

**Well-being**
- Size

**Inequality**
- Spread

**Poverty**
- Base


SDG Indicators: Poverty (in structure)

At least 60 SDG indicators take the structure of ‘poverty’ indicators. They identify the relevant population then aggregate their data across the population into a statistic – such as the headcount ratio – showing who are affected by a condition:

1.1.1, 1.2.1, 1.2.2, 1.3.1, 1.4.1, 1.5.1, 2.1.1, 2.1.2, 2.2.1, 2.2.2, 3.1.2, 3.3.1, 3.3.2, 3.3.3, 3.3.4, 3.3.5, 3.7.1, 3.7.2, 3.8.2, 3.b.1, 4.1.1, 4.2.1, 4.3.1, 4.4.1, 4.6.1, 5.2.1, 5.2.2, 5.3.1, 5.3.2, 5.6.1, 5.b.1, 6.1.1, 6.2.1, 7.1.1, 7.1.2, 8.3.1, 8.5.2, 8.6.1, 8.7.1, 8.10.2, 9.1.1, 9.c.1, 10.2.1, 10.3.1, 11.1.1, 11.2.1, 11.7.2, 11.a.1, 16.1.3, 16.1.4, 16.2.1, 16.2.2, 16.2.3, 16.3.1, 16.5.1, 16.6.2, 16.7.2, 16.9.1, 16.b.1, 17.8.1
• Global MPI: differences from some composite indices (SPI, DB, FSI, LPI, GPI)

1. Counting-based, hence reflects **hh level profiles**
2. All from same survey, so all indicators **same year**
3. Easily **disaggregated** if underlying data permit
4. **Standard errors** available for level, trend, disagg.
5. **Harmonisation** is strict, and equates definitions
6. **Weights** are deprivation values on 0-1 (no MRS)
6. **Measures Poverty**; others may combine welfare, inequality, death, non-human units.
7. **Methodology** is transparent and replicable (GPI)
8. **Robustness** tests to weights etc are done (GPI)

The purpose was to design an advocacy tool for child rights.
CC MODA: 2 differences from MPI

1. individual; specified for children 0-4, 5-17 years
2. creates union-based dimensional sub-indices
   - results in higher H for advocacy
   - loses indicator level information for policy
SDG Reporting
**SDG Report 2017: $1.90, unemployment**

**Goal 1: End poverty in all its forms everywhere**

Giving people in every part of the world the support they need to lift themselves out of poverty in all its manifestations is the very essence of sustainable development. Goal 1 focuses on ending poverty through interrelated strategies, including the promotion of social protection systems, decent employment and building the resilience of the poor.

- An estimated 767 million people lived below the extreme poverty line in 2013, down from 1.7 billion people in 1999. This represents a reduction in the global rate of extreme poverty from 28 per cent in 1999 to 11 per cent in 2013.

- Almost 10 per cent of the employed population worldwide lived with their families on less than 1.90 US dollars per person per day in 2016. Vulnerability was much higher for younger workers: 9 per cent of adult workers and their families lived in extreme poverty compared to 15 per cent of youth workers.

- In 2016, only 22 per cent of the unemployed worldwide received unemployment benefits, 28 per cent of people with severe disabilities collected a disability pension, 35 per cent of children were covered by social protection, 41 per cent of women giving birth received maternity benefits, and 68 per cent of people above retirement age collected a pension.

- Economic losses from natural hazards are now reaching an average of 250 billion to 300 billion US dollars a year, with a disproportionate impact on small and vulnerable countries.
National MPIs: Tailor made for policy

- Reflect National Priorities
- Compute as official national statistics
- Vital for policy: target, coordinate, monitor
- Comparable over time, groups, provinces

Ecuador
Panama
Chile
Policy makers are using national or global MPIs to:

1. **Complement** monetary poverty statistics
2. **Track poverty** over time (official statistics)
3. **Allocate resources** by sector and by region
4. **Target** marginalized regions, groups, or households
5. **Coordinate** policy across sectors and subnational levels
6. **Adjust** policies by what works (measure to manage)
7. **Leave No One Behind** see the poorest & track trends
8. **Be Transparent** so all stakeholders engage – NGOs, • Private Sector etc, all parts of government.
“Poverty measures should reflect the multidimensional nature of poverty.”

Ban Ki Moon (Dec, 2014), Former UN Secretary General

An MPI offers: a Headline, Disaggregation & Interlinkages to inform integrated action to complement monetary measures to help Leave No One Behind
7 March 2017: Side-Event at UN Statistics Commission

Statistical Offices presented:

- Mauricio Perfetti, Colombia
- David Vera, Ecuador
- Lisa Grace Bersales, Philippines
- Pali Lehohla, South Africa
- Ben Paul Mungyereza, Uganda
- Hedi Saidi, Tunisia
- Nesma Amer, Egypt

Reflections from the floor were offered by UNICEF, ECLAC, and OPHI.
High Level Political Forum

• The theme for the 2\textsuperscript{nd} UN High Level Political Forum for Sustainable Development was ’eradicating poverty in all its forms and dimensions’

• At the HLPF to date, 17 countries included multidimensional poverty in their VNRs: Bangladesh, Belize, Chile, Colombia, Costa Rica, Egypt, El Salvador, Guatemala, Honduras, India, Indonesia, Jordan, Nepal, Panama, Philippines, Sierra Leone, and Tajikistan

• Here and elsewhere countries indicate the intention to report their national MPI, the global MPI, or both, against indicator 1.2.2
19 Sept 2017: UNGA Shows MPI as governance tool

- H.E. Juan Orlando Hernández, President of Honduras
- H.E. Dasho Tshering Tobgay, Prime Minister of Bhutan
- H.E. Juan Manuel Santos, President of Colombia
- H.E. Pena Nieto, President of Mexico
- H.E. Ana-Helena Chacón, Vice President of Costa Rica
- H.E. Isabel de Saint Malo de Alvarado, Vice President of Panama
- Mr. Achim Steiner, Administrator of UNDP
- Mr. Ángel Gurría, Secretary-General of OECD
- H.E. Ahmed Aboul Gheit, Secretary-General of League of Arab States

Plus 11 speakers from South Africa, Egypt, Philippines, Bangladesh,. UN-ESCWA, Sida, UN-DESA, UNICEF, World Bank, and OPHI
## Global and National MPIs

<table>
<thead>
<tr>
<th>Country</th>
<th>MPI Headcount Ratio (National MPI H)</th>
<th>Year</th>
<th>Global MPI (Headcount Ratio)</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Armenia</td>
<td>29.1%</td>
<td>2015</td>
<td>0.3%</td>
<td>2010</td>
</tr>
<tr>
<td>Bhutan</td>
<td>12.6%</td>
<td>2012</td>
<td>27.2%</td>
<td>2010</td>
</tr>
<tr>
<td>Colombia</td>
<td>17.8%</td>
<td>2016</td>
<td>5.4%</td>
<td>2010</td>
</tr>
<tr>
<td>Dominican Republic</td>
<td>35.6%</td>
<td>2017</td>
<td>8.8%</td>
<td>2014</td>
</tr>
<tr>
<td>Ecuador</td>
<td>35.0%</td>
<td>2015</td>
<td>3.5%</td>
<td>2013/14</td>
</tr>
<tr>
<td>El Salvador</td>
<td>35.2%</td>
<td>2014</td>
<td>6.3%</td>
<td>2014</td>
</tr>
<tr>
<td>Honduras</td>
<td>74.2%</td>
<td>2013</td>
<td>15.8%</td>
<td>2011/12</td>
</tr>
<tr>
<td>Mexico</td>
<td>43.6%</td>
<td>2016</td>
<td>1.2%</td>
<td>2015</td>
</tr>
<tr>
<td>Mozambique</td>
<td>53%</td>
<td>2014/15</td>
<td>69.6%</td>
<td>2011</td>
</tr>
<tr>
<td>Pakistan</td>
<td>38.8%</td>
<td>2014/15</td>
<td>44.2%</td>
<td>2013/14</td>
</tr>
<tr>
<td>Panama</td>
<td>19.1%</td>
<td>2017</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chile</td>
<td>20.9%</td>
<td>2015</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Costa Rica</td>
<td>20.5%</td>
<td>2016</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
SDG Indicators: no reporting on 1.2.2

SDG Indicators
Global Database

Welcome to the dissemination platform of the Global SDG Indicators Database. This platform provides access to data compiled through the UN System in preparation for the Secretary-General's annual report on "Progress towards the Sustainable Development Goals".

The data series identified by the symbol SD correspond to the revised global indicator framework that was agreed by the Statistical Commission.

Goal 1

1.1.1 - Proportion of population below the international poverty line, by sex, age, employment status and geographical location (urban/rural)

1.2.1 - Proportion of population living below the national poverty line, by sex and age

1.3.1 - Proportion of population covered by social protection floors/systems, by sex, distinguishing children, unemployed persons, older persons, persons with disabilities, pregnant women, newborns, work-injury victims and the poor and the vulnerable
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.

Target 1.1 is to end $1.90/day poverty – so a comparable measure. Reducing by half makes less sense as a global goal if it refers to national MPIs. Is the goal to halve a global MPI?
Atkinson Commission Report

“focuses, as requested, on global poverty measurement, one important recommendation is that the two levels of analysis—global and national—should be viewed in conjunction. This does not mean any unwarranted imposition of uniformity of approach, but rather that there should be a better understanding of the relationship between global estimates for a country and the estimates of poverty made at the national level. The proposal of brief (two-page) National Poverty Statistics Reports for each country is intended to produce greater coherence between the two activities, with, it is hoped, benefits on both sides.”

Similar work will be useful on national and comparable MPIs.
Ways Forward
Aligning MPI with the SDGs:

An Exercise to explore data availability to improve MPI to better reflect SDG indicators:

<table>
<thead>
<tr>
<th>Objective</th>
<th>To identify potential 'new' and 'improved' indicators to modify the Global MPI in light of SDG indicators and recent improvements in DHS &amp; MICS surveys</th>
</tr>
</thead>
<tbody>
<tr>
<td>83 Countries covered</td>
<td>including nearly all high MPI countries and LICS</td>
</tr>
<tr>
<td>Population covered (2012)</td>
<td>5,010,917,205</td>
</tr>
</tbody>
</table>
### 83 diverse countries:

<table>
<thead>
<tr>
<th>Region</th>
<th>Number of Countries</th>
<th>Population</th>
</tr>
</thead>
<tbody>
<tr>
<td>DHS</td>
<td>48</td>
<td>2.90</td>
</tr>
<tr>
<td>MICS</td>
<td>33</td>
<td>0.56</td>
</tr>
<tr>
<td>CFPS</td>
<td>China</td>
<td>1.35</td>
</tr>
<tr>
<td>PNAD</td>
<td>Brazil</td>
<td>0.20</td>
</tr>
<tr>
<td>Arab States</td>
<td>8</td>
<td>0.23</td>
</tr>
<tr>
<td>East Asia &amp; Pacific</td>
<td>10</td>
<td>1.92</td>
</tr>
<tr>
<td>E. Europe &amp; C. Asia</td>
<td>13</td>
<td>0.08</td>
</tr>
<tr>
<td>Latin America</td>
<td>12</td>
<td>0.41</td>
</tr>
<tr>
<td>South Asia</td>
<td>7</td>
<td>1.63</td>
</tr>
<tr>
<td>Sub-Saharan Africa</td>
<td>33</td>
<td>0.74</td>
</tr>
</tbody>
</table>
### 31 potential indicators explored (each SDG-related)

<table>
<thead>
<tr>
<th>Household (11)</th>
<th>Child (5)</th>
<th>Women (15)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Information technology</td>
<td>Registration of birth</td>
<td>Anemia</td>
</tr>
<tr>
<td>Small physical assets</td>
<td>Child disability</td>
<td>Disability</td>
</tr>
<tr>
<td>Electrical assets</td>
<td>Early childhood education</td>
<td>Female genital mutilation</td>
</tr>
<tr>
<td>Agricultural/fish/farm assets</td>
<td>Child vulnerability</td>
<td>Daily access to information</td>
</tr>
<tr>
<td>Financial transaction</td>
<td>Child labour</td>
<td>Ownership of assets</td>
</tr>
<tr>
<td>Treated mosquito nets</td>
<td></td>
<td>Recent migration status</td>
</tr>
<tr>
<td>Exposure to tobacco</td>
<td></td>
<td>Unwanted pregnancy</td>
</tr>
<tr>
<td>Overcrowding</td>
<td></td>
<td>Use of contraception</td>
</tr>
<tr>
<td>Iodized salt</td>
<td></td>
<td>Antenatal care</td>
</tr>
<tr>
<td>Health insurance</td>
<td></td>
<td>Assisted delivery</td>
</tr>
<tr>
<td>Waste management</td>
<td></td>
<td>Post-delivery care</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Breastfeeding</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Domestic violence</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Informal work</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Decision making</td>
</tr>
</tbody>
</table>
Summary of feasible options
Available for over 70 countries and 3B people:

Health
- Change undernutrition to **stunting** for children 0-5; **age-specific BMI 15-19**
- **Child mortality** in last 5 years – unchanged

Education
- **Years of schooling** – change to **6 years**
- **School attendance** – same

Living Standards
- **Safe Water** – same
- **Sanitation** same
- **Flooring:** add **Roof and Wall** (explore options how to do so)
- **Assets** – **improve:** land, livestock, mobility, technology? Validate thoroughly.
- **Electricity** – Possibly replace with **overcrowding**.
- **Cooking Fuel** – same
Active Research Frontiers

- Child Poverty [linked child poverty measures]
- Incorporating ENR into MPI measures
- Gendered Poverty measures
- New Brief Indicator modules: work, violence
- Inequality among the poor
- Multidimensional inequality
- Multidimensional analysis (macro/micro/multi-level),
- Multidimensional impact evaluation
- Data improvements – missing populations, surveys, etc.
- Merging with Geo-spatial sources
- Chronic multidimensional poverty
- Multidimensional measures of well-being
The estimation of the extent of global poverty is an exercise in description... As Commission member Amartya Sen (1980, 353) has written, “description as an intellectual activity is typically not regarded as very challenging.” However, as he goes on to say, “description isn’t just observing and reporting; it involves the exercise—possibly difficult—of selection... description can be characterized as choosing from the set of possibly true statements a subset on grounds of their relevance” (Sen 1980, 353–54)...Understanding the choices underlying the monitoring indicators, and their full implications, is indeed challenging. There will doubtless be differences of view... but it is hoped that the ensuing debate will bring together all those concerned and provide a basis for action to tackle one of the gravest problems facing the world today.
www.ophi.org.uk/multidimensional-poverty-index

Global MPI: anything distinctive?