Oxford Poverty and Human Development Initiative (OPHI)

www.ophi.org.uk

Oxford Dept of International Development,
Queen Elizabeth House, University of Oxford

Country Briefing: Ethiopia

Multidimensional Poverty Index (MPI) *At a Glance*

For an explanation of the MPI and details of the resources available in the MPI Data Bank, please see the last page of the briefing.

This Country Briefing presents the results of the Multidimensional Poverty Index (MPI) and explains key findings graphically. More information, international comparisons and MPI resources are available at www.ophi.org.uk/multidimensional-poverty-index/.

The MPI was constructed by OPHI for UNDP's 2013 Human Development Report (http://hdr.undp.org/en/).

Please cite this document as: Oxford Poverty and Human Development Initiative (2013). "Ethiopia Country Briefing", Multidimensional Poverty Index Data Bank. OPHI, University of Oxford. Available at: www.ophi.org.uk/multidimensional-poverty-index/mpi-country-briefings/.

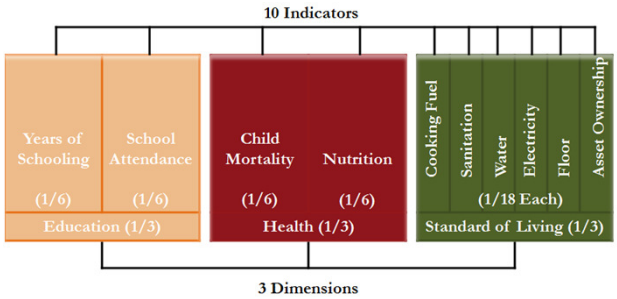
For information on the original MPI methodology, see the revised paper, Alkire, S. and Santos, M.E. (2013), "Measuring Acute Poverty in the Developing World: Robustness and Scope of the Multidimensional Poverty Index", OPHI Working Paper 59. Available at www.ophi.org.uk/wp-content/uploads/ophi-wp-59.pdf.

For information on updates that took place in 2011, see Alkire, S., Roche, J.M., Santos, M.E. and Seth, S. (2011), "Multidimensional Poverty Index 2011: Brief Methodological Note". Available at: www.ophi.org.uk/wp-content/uploads/MPI_2011_Methodology_Note_4-11-2011_1500.pdf.

For information on updates that took place in 2013, see Alkire, S., Conconi, A. and Roche, J.M. (2013), "Multidimensional Poverty Index 2013 : Brief Methodological Note and Results". Available at: www.ophi.org.uk/multidimensional-poverty-index/.

Inside the MPI

The 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 also equally weighted, and these weights are shown in brackets within the diagram.



Country Profile — Ethiopia-DHS-2011

Country: Ethiopia **Year:** 2011 **Survey:** DHS

Region: Sub-Saharan Africa

Multidimensional Poverty Index (MPI)

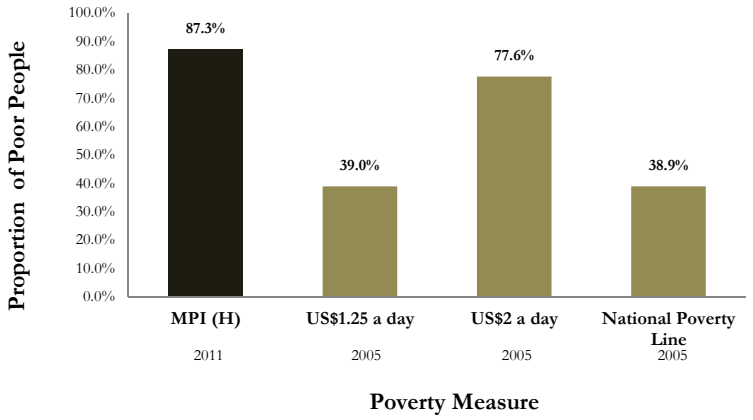
The MPI reflects both the **incidence** or headcount ratio (H) of poverty – the proportion of the population that is multidimensionally poor – and the average **intensity** (A) of their poverty – the average proportion of indicators in which poor people are deprived. The MPI is calculated by multiplying the incidence of poverty by the average intensity across the poor (H×A). A person is identified as poor if he or she is deprived in at least one third of the weighted indicators. The following table shows the multidimensional poverty rate (MPI) and its two components: incidence of poverty (H) and average intensity of deprivation faced by the poor (A). The first and second columns of the table report the survey and year used to generate the MPI results. Those identified as "Vulnerable to Poverty" are deprived in 20% - 33% of weighted indicators and those identified as in "Severe Poverty" are deprived in 50% or more.

Survey	Year	Multidimensional Poverty Index (MPI = H×A)	Percentage of Poor People (H)	Average Intensity Across the Poor (A)	Percentage of Population Vulnerable to Poverty	Percentage of Population in Severe Poverty
DHS	2011	0.564	87.3%	64.6%	6.8%	71.1%

Comparing the MPI with Other Poverty Measures

Chart A compares the poverty rate using the MPI with three other commonly used poverty measures. 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 $1.25 a day income poverty line and $2.00 a day line, respectively. The final column denotes the percentage of people who are poor according to the national income 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. The year is provided below each column in chart A.

A. Comparative Poverty Measures



Summary

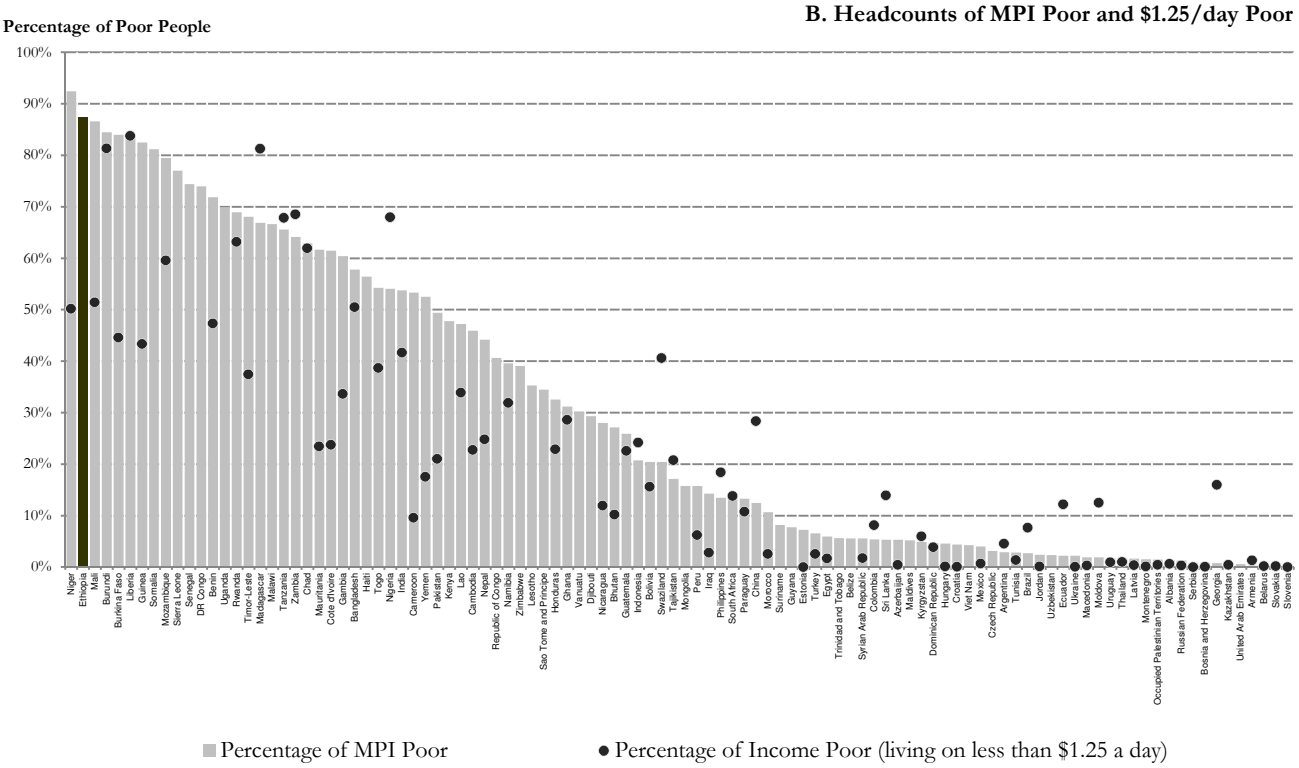
Multidimensional Poverty Index	0.564
Percentage of MPI Poor (H)	87.3%
Average Intensity of Deprivation (A)	64.6%
Percentage of Income Poor ($1.25 a day)‡	39.0%
Percentage of Income Poor ($2.00 a day)‡	77.6%
Percentage of Poor (National Poverty Line)‡	38.9%

‡ The World Bank (2012). "The World DataBank". Washington, DC. [available at http://databank.worldbank.org/data/home.aspx, accessed September 2012]

Comparing the Headcount Ratios of MPI Poor and $1.25/day Poor

Chart B shows the percentage of people who are MPI poor (also called the incidence or headcount ratio) in the developing countries analysed. The column denoting this country is dark, with other countries shown in light grey. The dark dots denote the percentage of people who are income poor according to the $1.25 a day poverty line in each country. Chart A tells you the year this 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.

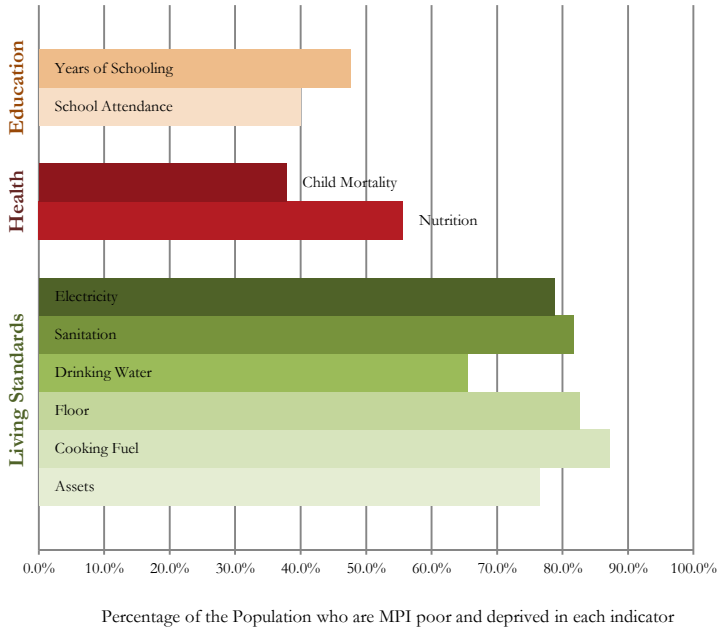
B. Headcounts of MPI Poor and $1.25/day Poor



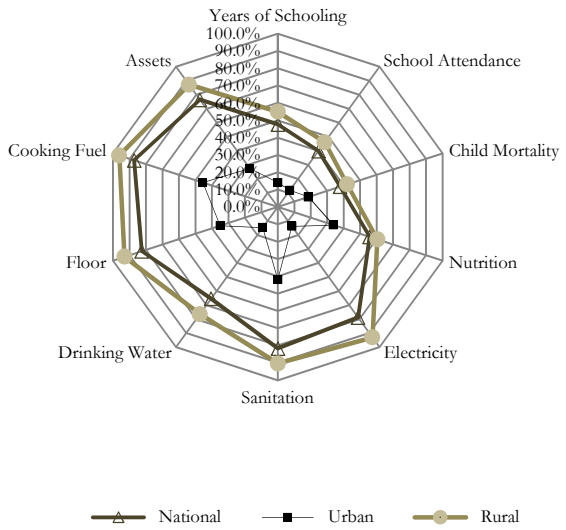
Incidence of Deprivation in Each of the MPI Indicators

The MPI uses 10 indicators to measure poverty in three dimensions: education, health and living standards. The bar chart to the left reports the proportion of the population that is poor and deprived in each indicator. We do not include the deprivation of non-poor people. The spider diagram to the right compares the proportions of the population that are poor and deprived across different indicators. At the same time it compares the performance of rural areas and urban areas with that of the national aggregate. Patterns of deprivation may differ in rural and urban areas. The MPI is also the weighted sum of these deprivation counts, which makes it useful for monitoring change.

C. Deprivations in each Indicator



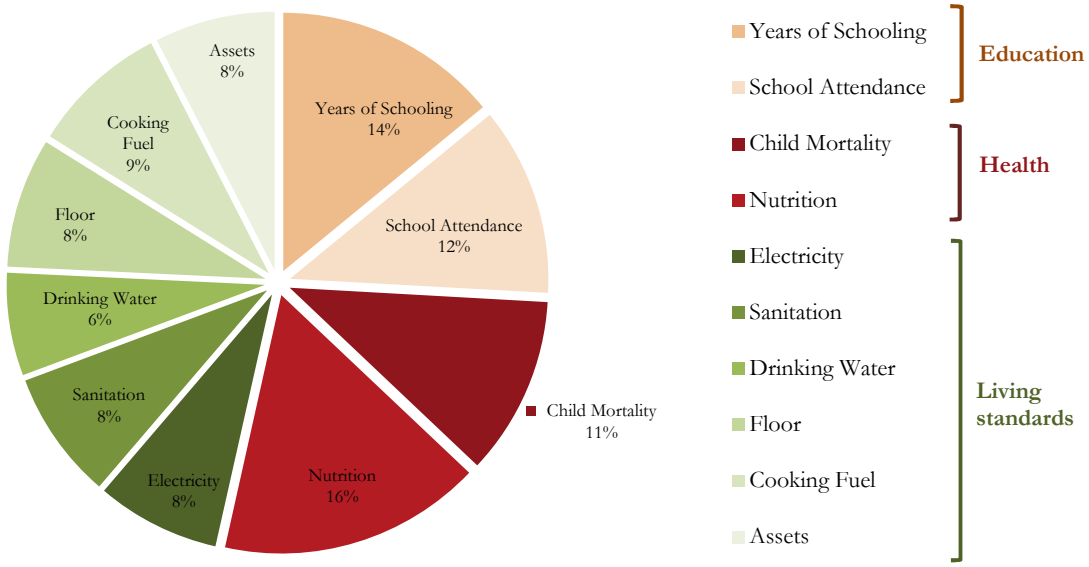
D. Percentage of the Population MPI Poor and Deprived



Composition of the MPI

The MPI can be broken down to see directly how much each indicator contributes to multidimensional poverty. The following figure shows the composition of the MPI using a pie chart. Each piece of the pie represents the percentage contribution of each indicator to the overall MPI of the country. The larger the slice of the pie chart, the bigger the weighted contribution of the indicator to overall poverty.

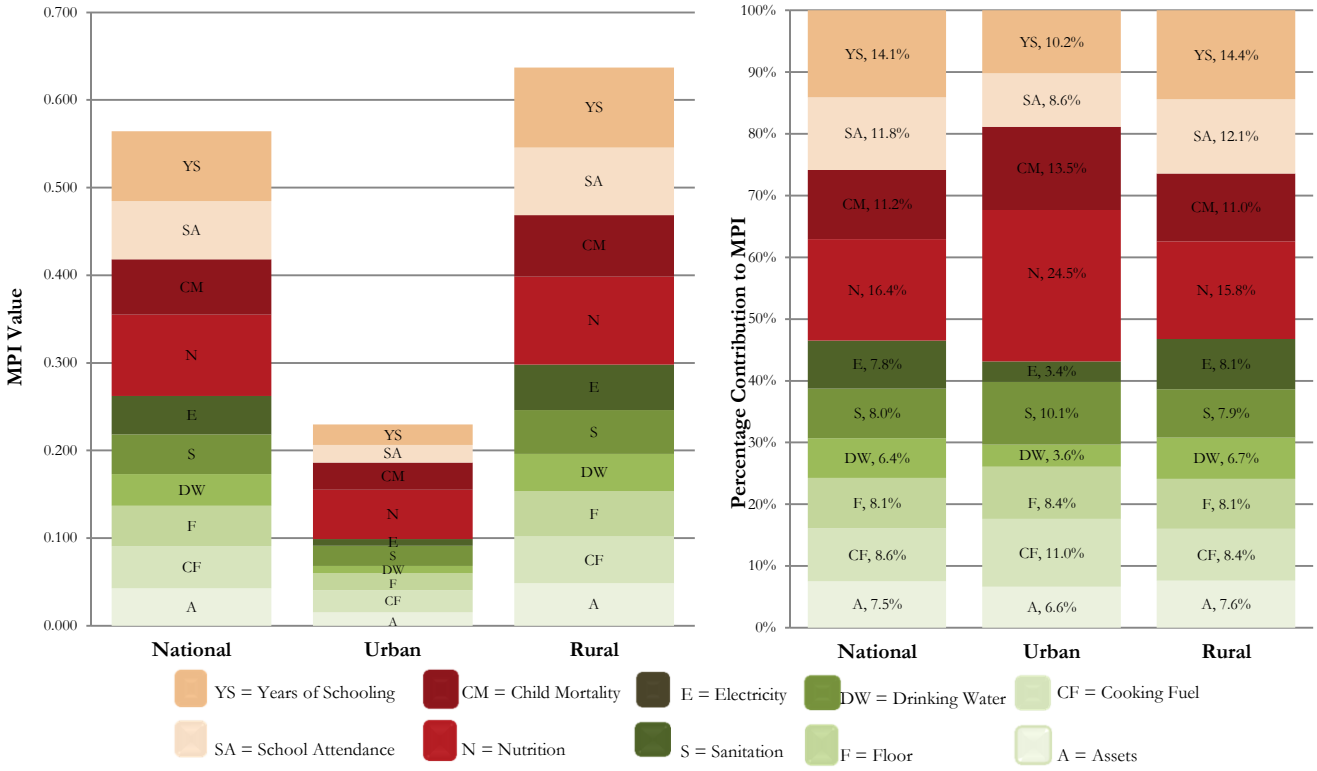
E. Contribution of Indicators to the MPI



Decomposition of MPI by Region

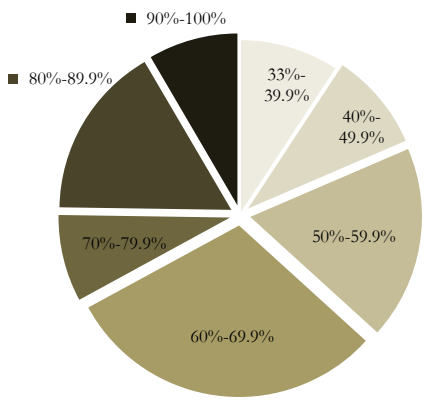
The MPI can be decomposed by different population subgroups, then broken down by dimension, to show how the composition of poverty differs between different regions or groups. On the left-hand side of column chart F, the height of each of the three bars shows the level of MPI at the national level, for 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 column chart F, 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.

F. Contribution of Indicators to the MPI at the National Level, for Urban Areas, and for Rural Areas



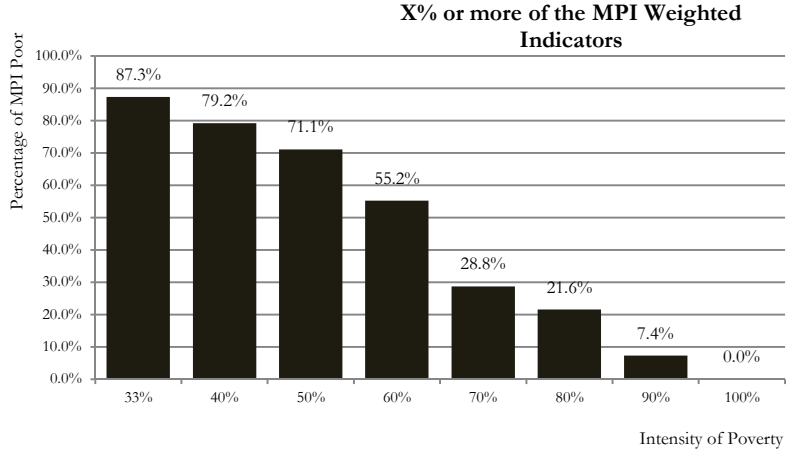
Intensity of Multidimensional Poverty

Recall that i) a person is considered poor if they are deprived in at least one third of the weighted indicators and ii) the intensity of poverty denotes the proportion of weighted indicators in which they are deprived. A person who is deprived in 90% has a greater intensity of poverty than someone deprived in 40%. The following figures show the percentage of MPI poor people who experience different intensities of poverty. The pie chart below breaks the poor population into groups based on the intensity of their poverty. For example, the first slice shows deprivation intensities of greater than 33% but strictly less than 40%. It shows the proportion of poor people whose intensity (the percentage of indicators in which they are deprived) falls into each group. The column chart H reports the proportion of the population in a country that is poor in that percentage of indicators or more. For example, the number over the 40% bar represents the percentage of people who are deprived in 40% or more weighted indicators.



G. Intensity of Deprivation Among MPI Poor

H. Percentage of People Deprived in X% or more of the MPI Weighted Indicators



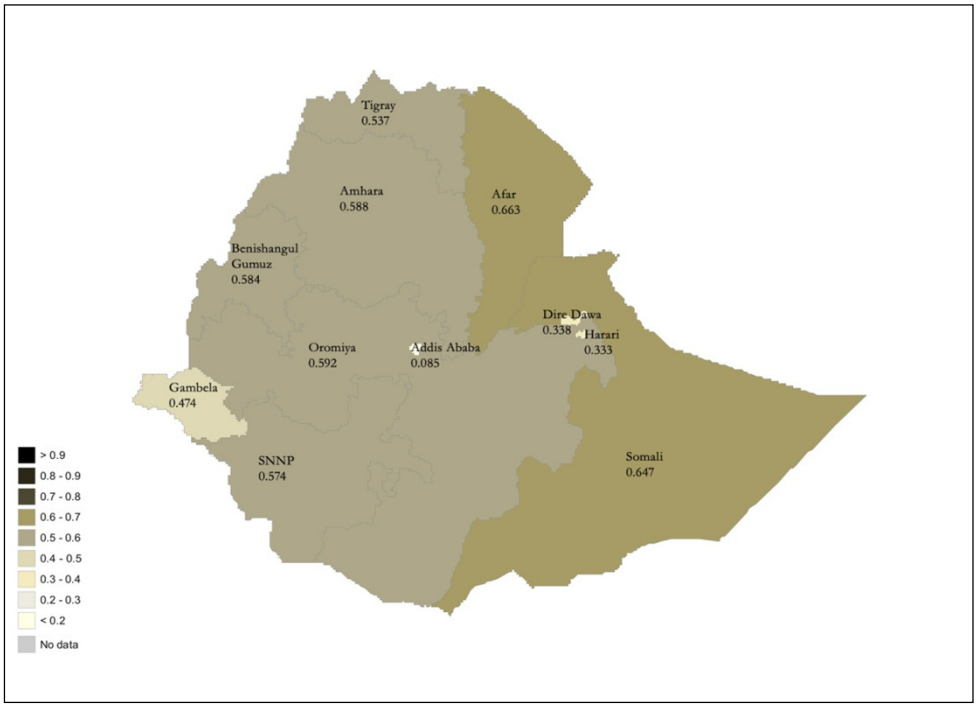
Multidimensional Poverty at the Sub-national Level

In addition to providing data on multidimensional poverty at the national level, the MPI can also be 'decomposed' 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 faced by the poor (A). The fifth and sixth columns present the percentage of the population vulnerable to multidimensional poverty and living in severe poverty, respectively. 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. All figures in Table I, including the population-weighted regional MPIs, headcount ratios (H), and intensities (A), sum to the national figures. The map following the table shows visually how the MPI varies across regions; a darker colour indicates higher MPI and therefore greater poverty. For each region, we also provide the incidence of deprivation indicators, and the composition of MPI poor. These are found in the Excel tables and the interactive maps available at http://www.ophi.org.uk/multidimensional-poverty-index/.

I. Multidimensional Poverty across Sub-national Regions

Region	Multidimensional Poverty Index (MPI = H×A)	Incidence of Poverty (H)	Average Intensity Across the Poor (A)	Percentage of Population Vulnerable to Poverty	Percentage of Population in Severe Poverty	Population Share
Addis Ababa	0.085	20.0%	42.4%	28.7%	4.8%	3.8%
Affar	0.663	90.9%	72.9%	4.2%	79.7%	0.9%
Amhara	0.588	90.1%	65.2%	6.0%	74.6%	25.2%
Benishangul-Gumuz	0.584	89.8%	65.1%	5.7%	74.3%	1.0%
Dire Dawa	0.338	54.9%	61.6%	19.4%	38.5%	0.4%
Gambela	0.474	81.2%	58.4%	11.7%	57.5%	0.4%
Harari	0.333	57.9%	57.4%	16.8%	36.6%	0.3%
Oromiya	0.592	91.2%	64.8%	5.2%	74.9%	38.7%
Somali	0.647	93.0%	69.6%	5.0%	81.9%	2.3%
SNNP	0.574	89.7%	64.0%	6.1%	73.2%	20.6%
Tigray	0.537	85.4%	63.0%	9.4%	66.2%	6.6%

J. Mapping Poverty Rates at the Sub-national Level



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.

Comparing MPI over time

Updated MPI estimations use the maximum information available in the survey on which the estimation is based (Alkire, Conconi and Roche 2013). As a result, improvements in the questionnaire or survey design imply improvements in the MPI estimation.

While this methodological strategy allows us to produce the most accurate estimation for a given year, it creates challenges of comparability over time between published MPI values. In order to compare the trends in MPI over time, we have systematically assessed and standardized the MPI parameters for 22 countries for which changes in the DHS survey design may affect comparability across time. Note that we do not at this moment attempt to compare countries' MPIs over time if both estimates do not use DHS datasets.

Tables with the outputs of this analysis can be found on the OPHI website, and the full analysis is available in Alkire, S. and Roche, J.M. (2013) 'How Successful are Countries in Reducing Multidimensional Poverty? Insights from Inter-Temporal Analyses of Twenty-two Countries'.

We provide here a summary of adjustments to facilitate an interpretation over time.

Ethiopia (2005–2010):

- The published MPI figure increased slightly from .562 to .564 between these years. However, importantly, when figures are adjusted for comparability, we find that the MPI shows a fall from .605 to .523.

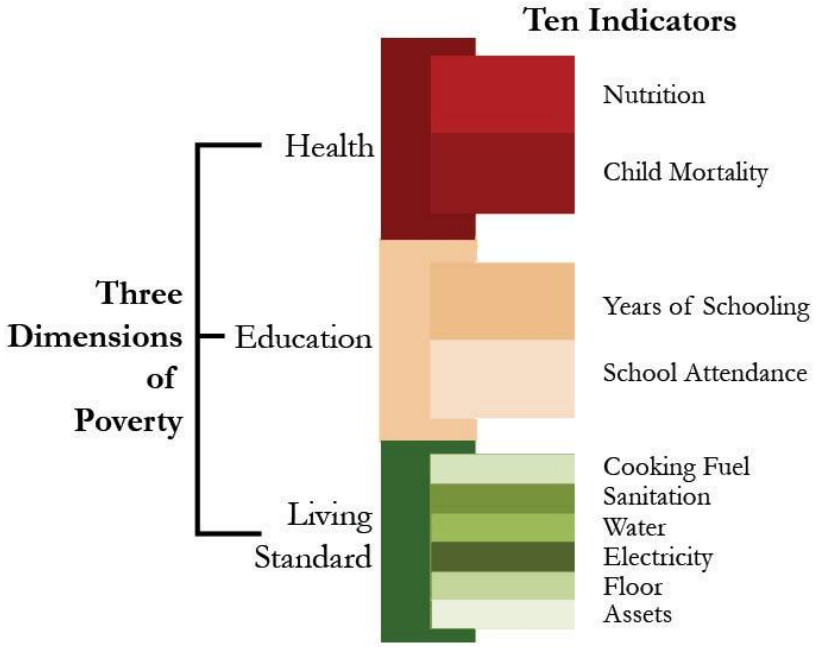
- The differences are due to the fact that the 2005 survey only measures anthropometrics for a 50% subsample and the published figure for 2005 included the full sample, hence assuming that all those not measured were not deprived. For comparability, the 2005 adjusted MPI is based only on the nutritional subsample.

- In addition, improvements in the survey questionnaire were undertaken in 2005, so for 2005 and 2010 we include information on "source of non-drinking water", "time to water", "mobile phone" and "refrigerator" that was not available in 2000. In order to obtain a three-period comparison with 2000, parameters in both 2005 and 2010 were adjusted as in 2000. During this time, there were improvements in the categories used to measure source of water and sanitation, but they do not affect the deprivation cutoff or the comparability of the MPI estimates.

Multidimensional Poverty Index

~ Global Multidimensional Poverty Index 2013 ~
covering 104 countries and sub-national regions of 65 countries

The Multidimensional Poverty Index (MPI for short) is an international measure of acute poverty covering 104 developing countries. The MPI complements income-based poverty measures by reflecting the multiple deprivations that people face at the same time. The MPI identifies deprivations across health, education and living standards, and shows the number of people who are multidimensionally poor and the deprivations that they face at the household level. It uses ten indicators across three dimensions, as the diagram below shows.



Each dimension is equally weighted, and each indicator within each dimension is equally weighted. A person is identified as multidimensionally poor if he or she is deprived in at least one third of the dimensions; one deprivation alone may not represent poverty.

Used as an analytical tool, the MPI shows:
Incidence of poverty: the percentage of multidimensionally poor people or headcount ratio, *H;*
Intensity of poverty: the average number of deprivations poor people face at the same time, *A*;
Composition of poverty: by each of the 10 indicators and their weighted contributions.
These statistics (H, A, indicators) may also be analysed by subnational regions, ethnic groups and rural/urban areas.

The global MPI was developed and applied by OPHI for the United Nations Development Programme's flagship *Human Development Report*, and has featured in the HDR since 2010. It mainly uses the most recent Demographic and Health or Multiple Indicator Cluster surveys available from 2002 to 2012.

The MPI implements a rigorous technique for multidimensional measurement created by Sabina Alkire and James Foster. The same method can be used with different indicators, weights and cutoffs to develop national MPIs that reflect the priorities of individual countries.

OPHI's MPI Data Bank

www.ophi.org.uk/multidimensional-poverty-index/

OPHI's global MPI Data Bank contains a wealth of resources on multidimensional poverty in more than 100 developing countries, enabling users to see how poverty is experienced in different parts of the world, zoom in on sub-national regions, or explore the character of poverty by different indicators. Follow the links below to find out more.

- **MPI Country Briefings**: Short, country-specific summaries on the results of the MPI analyses. A number of the briefings include data at the sub-national level.

- **MPI Map**: An interactive world map that enables you to navigate the world according to either the MPI as a whole or by individual dimensions and indicators of MPI poverty. Static maps are available for download and use in presentations.

- **MPI Data Tables - Main MPI Results:** A table which presents the basic MPI results and sorts 104 countries from low to high.

- **MPI Data Tables – MPI at the Sub-national Level:** This table reports the MPI, its two components - the Headcount Ratio and the Intensity of Deprivation among the poor - and other indicators of multidimensional poverty for 663 regions of 65 countries.

- **MPI Data Tables – MPI over Time:** This table shows the value and confidence intervals for the main MPI results of 22 countries for which we have comparable data over time.

- **MPI Methodology**: OPHI's MPI methodological notes explain how the global MPI is calculated and shares the updates that have taken place since it was first reported in 2010.

- **MPI Resources**: MPI publications collected in one place, including the key academic papers and exchanges, and training material for producing a global or national MPI.

- **MPI FAQs**: All your questions on MPI answered.

- **MPI Background**: A brief history of the MPI, including how it came to be developed for publication in UNDP's *Human Development Report*, and how it is being used now.

- **MPI Case Studies**: Stories of people who are poor according to the MPI in their country: their hopes, strengths and challenges.

- **MPI Podcasts**: A series of interviews with OPHI researchers, leading academics working on poverty measurement, statisticians and others.

- **Making your own MPI**: Adaptations of the global MPI for other purposes, such as national poverty measurement, targeting, child poverty measurement and empowerment.

- **Online training portal**: Resources on multidimensional measurement techniques, including video and audio files, lecture slides, exercises and reading lists.