Oxford Poverty and Human Development Initiative (OPHI)
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Oxford Department of International Development
Queen Elizabeth House, University of Oxford

OPHI Country Briefing December 2016: India

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 more information, international comparisons and details of the resources available in the MPI Databank, please see www.ophi.org.uk/multidimensional-poverty-index/

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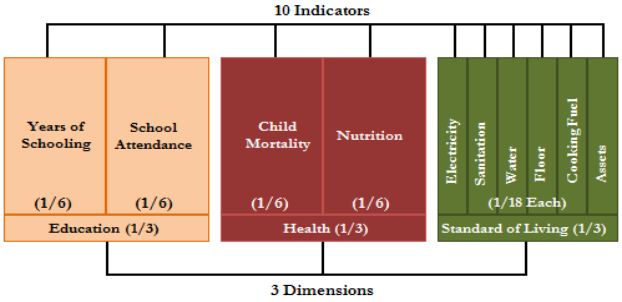
www.ophi.org.uk/multidimensional-poverty-index/mpi-country-briefings/.

For information on updates to the MPI methodology, see Alkire, S. and Robles, G. (2016), "Multidimensional Poverty Index 2016: Brief Methodological Note and Results". Available at: www.ophi.org.uk/multidimensional-poverty-index /.

For information on the original MPI methodology, see Alkire, S. and Santos, M.E. (2014), "Measuring Acute Poverty in the Developing World: Robustness and Scope of the Multidimensional Poverty Index", World Development 59 (2014) 251-274. A free version of this paper is available at http://www.ophi.org.uk/wp-content/uploads/ophi-wp-591.pdf

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 also equally weighted, and these weights are shown in brackets within the diagram. Details of the indicators can be found at the back of this briefing.



Country Profile

Country: India **Year:** 2005/06 **Survey:** NFHS **Region:** South Asia

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 cutoff for poverty (k) is 33.33%.

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 (MPI = H x A); as a result, it reflects both the share of people in poverty and the degree to which they are deprived.

If a person is deprived in **20-33.3%** of the weighted indicators they are considered **'Vulnerable to Poverty'**, and if they are deprived in **50% or more** (i.e. k=50%), they are identified as being in '**Severe Poverty**'.

Those identified as '**Destitute**' are deprived in **at least one third of more extreme indicators** described at the back of this briefing; for example, two or more children in the household have died (rather than one), no one in the household has at least one year of schooling (rather than five years), the household practises open defecation, the household has no assets (rather than no more than one). Data on destitution are currently available for more than 100 countries analysed in the Global MPI; where it is not available, it is not reported in the table below. For detail, see Alkire, Conconi and Seth (2014), available at: www.ophi.org.uk/multidimensional-poverty-index/.

The level of **inequality** among the poor is calculated using a separate, decomposable inequality measure to capture inequality in deprivation counts among the poor and disparities across groups. For details of the measure and how it is applied, see Seth and Alkire (2014), available at http://www.ophi.org.uk/measuring-and-decomposing-inequality-among-the-multidimensionally-poor-using-ordinal-data-a-counting-approach/. Total equality takes a value of zero, and the higher the value, the greater the inequality. The highest inequality among more than 100 countries analysed is 0.3.

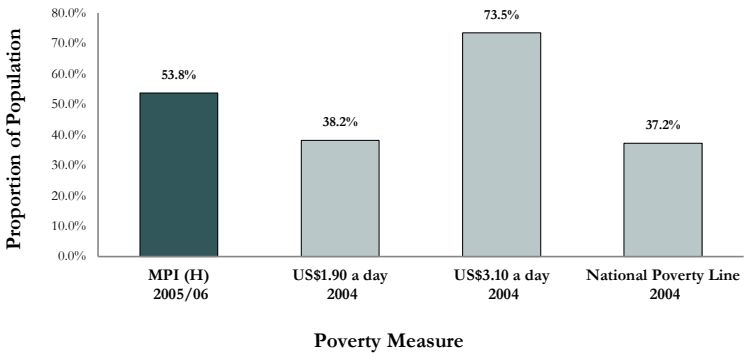
A. MPI Results at the National Level

Survey	Year	Multidimensional Poverty Index (MPI = H×A)	Percentage of Poor People (H) (k = 33.3%)	Average Intensity Across the Poor (A)	Percentage of Population:			Inequality Among the MPI Poor
					Vulnerable to Poverty (k = 20%-33.3%)	In Severe Poverty (k = 50%)	Destitute	
NFHS	2005/06	0.283	53.8%	52.7%	16.4%	28.6%	28.5%	0.234

Comparing the MPI with Other Poverty Measures

The year of the survey the statistics are taken from 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 one as a reference.

B. Comparative Poverty Measures



C. **Summary**

Multidimensional Poverty Index	0.283
Percentage of MPI Poor (H)	53.8%
Average Intensity Across the Poor (A)	52.7%
Percentage of Income Poor ($1.90 a day)‡	38.2%
Percentage of Income Poor ($3.10 a day)‡	73.5%
Percentage of Poor (National Poverty Line)‡	37.2%
Income Inequality (Gini index)‡	0.352

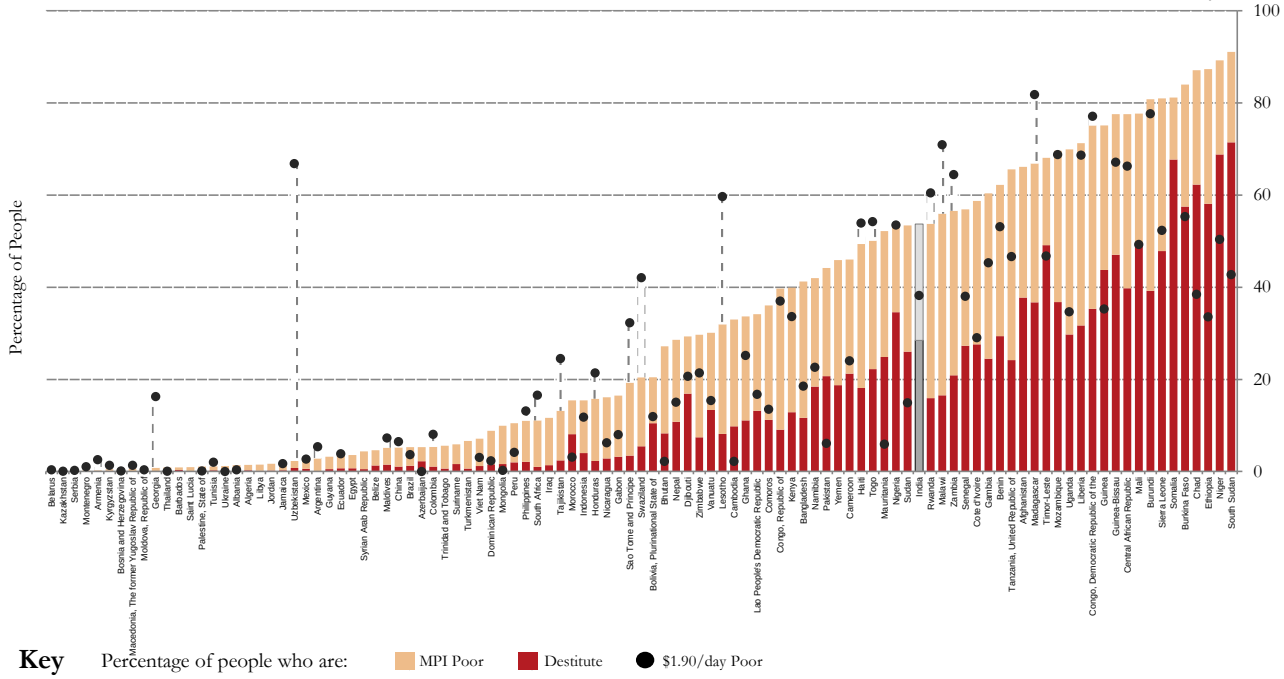
‡ The World Bank (2016). "The World DataBank". Washington, DC. [available at http://databank.worldbank.org/data/home.aspx, accessed 24 Apr 2016]

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 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.

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

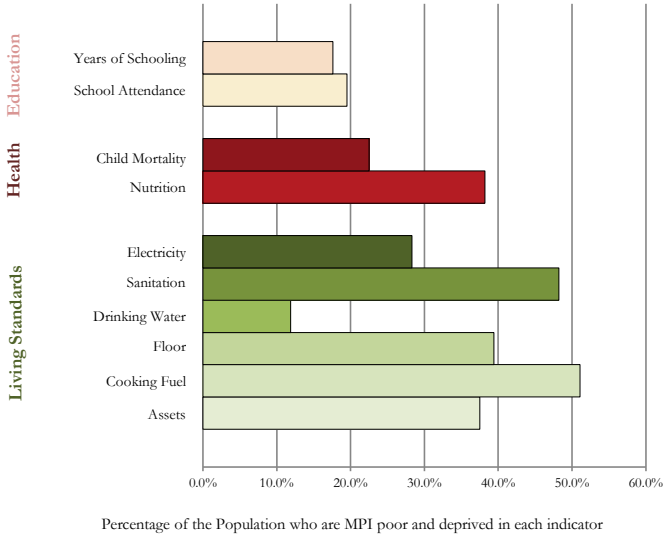


Key Percentage of people who are: MPI Poor Destitute $1.90/day Poor

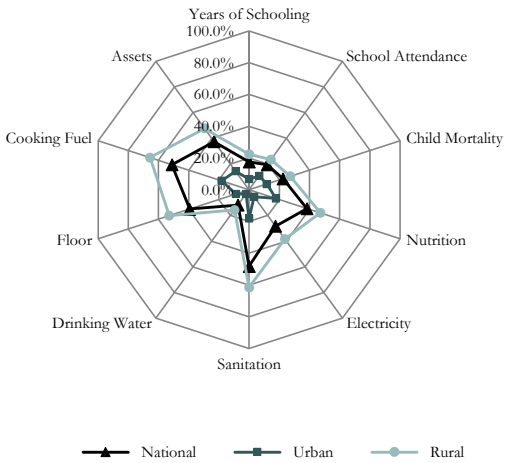
Incidence of Deprivation in Each of the MPI Indicators

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 ratios. 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



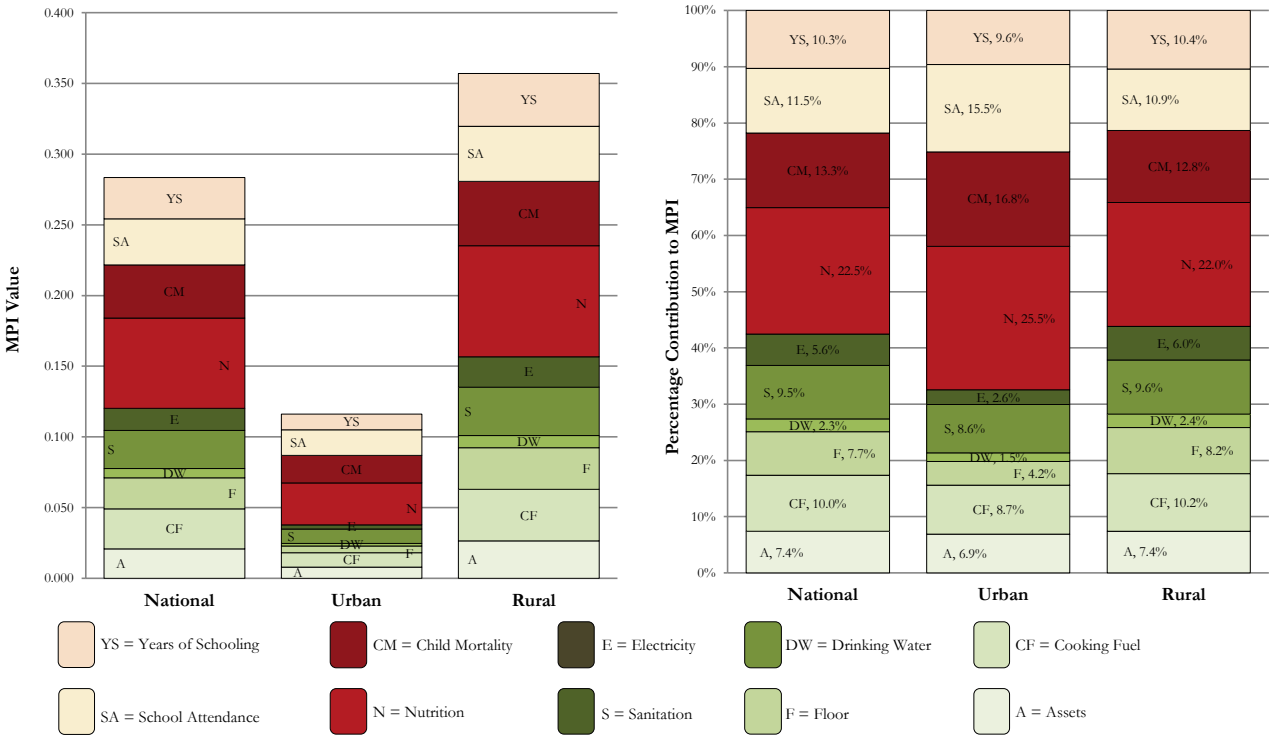
F. Percentage of the Population who are MPI Poor and Deprived



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



Intensity of Multidimensional Poverty

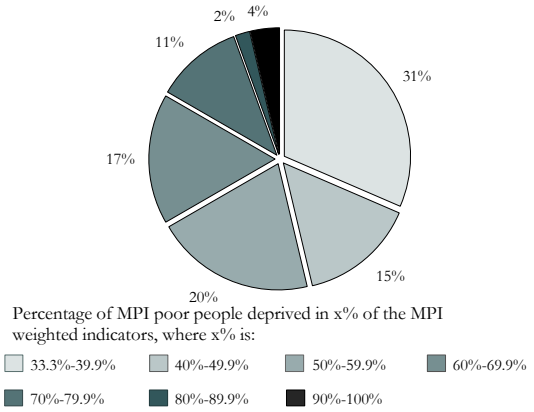
Recall that i) a person is considered poor if they are deprived in at least one third of the weighted indicators and ii) the intensity of poverty denotes the proportion of weighted indicators in which they are deprived. A person who is deprived in 90% of the weighted indicators has a greater intensity of deprivation than someone deprived in 40% of the weighted indicators. The following figures show the percentage of MPI poor people who experience different intensities of deprivation.

The pie chart below breaks the poor population into groups based on the intensity of their deprivations. For example, the first slice shows deprivation intensities of greater than 33.33% 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.

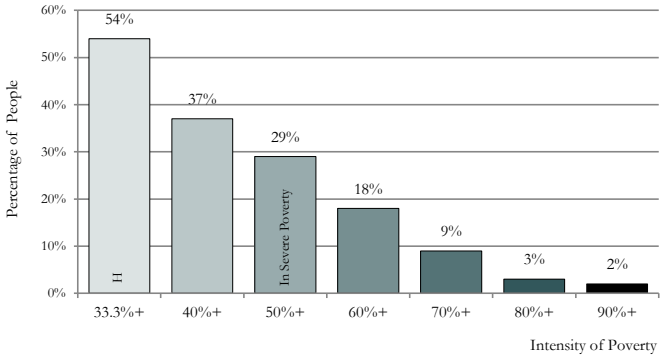
The column chart I reports the proportion of the population in a country that is poor in that percentage of indicators or more. For example, the number over the 40%+ bar represents the percentage of people who are deprived in 40% or more weighted indicators.

In both graphs, those people who are deprived in 50% or more of the indicators are identified as in 'Severe Poverty' in Table A (page 1); in other words, everyone except those who fall into the first two categories (33.3-39.9% and 40-49.9% in graph H, 33.3%+ and 40%+ in graph I).

H. Intensity of Deprivation Among MPI Poor



I. 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 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 more extreme indicators (see details at the back of this briefing).

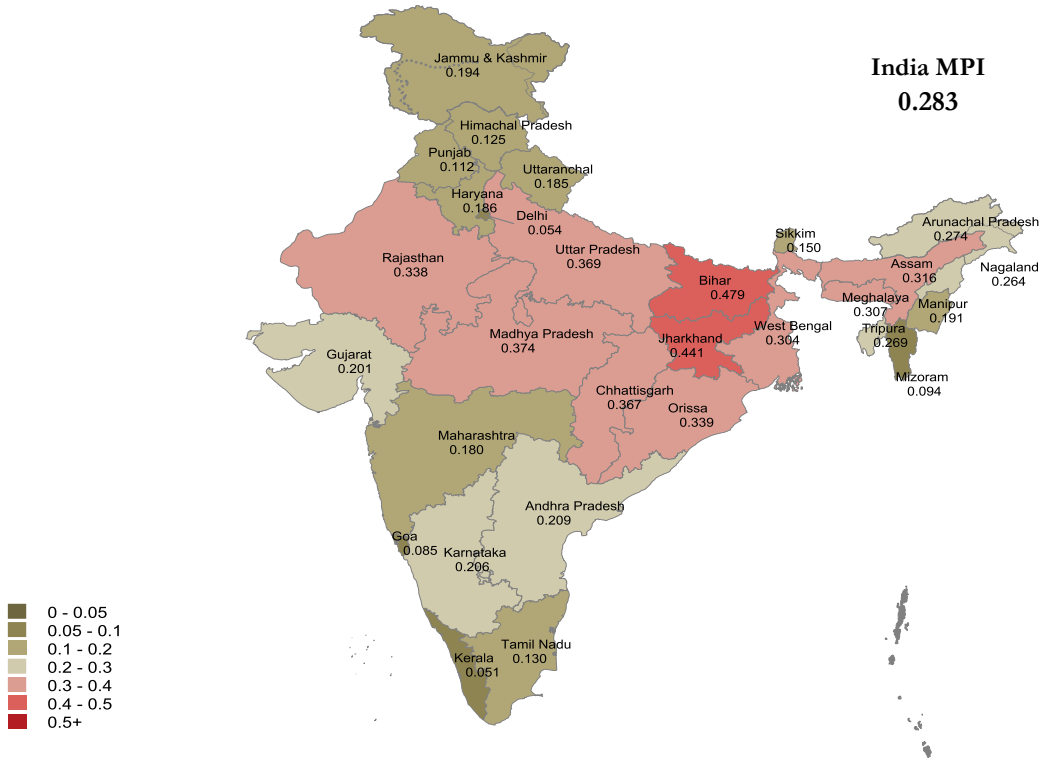
The second-to-last column presents the level of inequality among the poor, calculated using a decomposable inequality measure (see page 10). The last column presents the population share of each region, which has been obtained by using the sampling weight in the respective survey dataset, applied to 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

Region	MPI (H x A)	H (Incidence) k ≥ 33.3%	A (Intensity)	Percentage of Population: Vulnerable to Poverty k = 20%-33.3%	In Severe Poverty k ≥ 50%	Destitute	Inequality Among the MPI Poor	Population Share
India	**0.283**	**53.8%**	**52.7%**	**16.4%**	**28.6%**	**28.5%**	**0.234**	**100%**
Urban	**0.116**	**24.6%**	**47.2%**	**16.5%**	**9.6%**	**-**	**-**	**30.6%**
Rural	**0.357**	**66.6%**	**53.6%**	**16.4%**	**36.9%**	**-**	**-**	**69.4%**
Kerala	0.051	12.7%	40.2%	22.3%	2.1%	3.0%	0.067	2.6%
Delhi	0.054	12.4%	43.5%	13.6%	3.4%	3.2%	0.116	1.1%
Goa	0.085	20.0%	42.8%	16.5%	4.8%	7.6%	0.191	0.1%
Mizoram	0.094	21.0%	44.7%	16.0%	7.0%	4.8%	0.113	0.1%
Punjab	0.112	24.6%	45.5%	19.4%	9.0%	8.9%	0.139	2.5%
Himachal Pradesh	0.125	29.9%	41.6%	25.7%	7.0%	11.1%	0.181	0.6%
Tamil Nadu	0.130	30.5%	42.7%	20.2%	8.7%	11.9%	0.091	5.5%
Sikkim	0.150	31.8%	47.0%	16.5%	12.1%	9.4%	0.167	0.1%
Maharashtra	0.180	37.9%	47.6%	19.9%	14.7%	16.9%	0.162	9.3%
Uttaranchal	0.185	39.5%	46.7%	20.2%	15.8%	18.3%	0.218	0.8%
Haryana	0.186	39.3%	47.4%	21.2%	16.0%	16.8%	0.073	2.0%
Manipur	0.191	40.8%	46.7%	22.8%	15.4%	12.5%	0.154	0.2%
Jammu & Kashmir	0.194	41.0%	47.2%	20.7%	16.7%	13.8%	0.280	0.9%
Gujarat	0.201	41.0%	48.9%	16.9%	18.5%	20.7%	0.102	4.9%
Karnataka	0.206	43.2%	47.7%	18.7%	18.7%	19.5%	0.173	5.5%
Andhra Pradesh	0.209	44.5%	46.9%	18.0%	18.5%	19.5%	0.162	7.1%
Nagaland	0.264	51.7%	51.1%	19.5%	26.2%	22.4%	0.201	0.1%
Tripura	0.269	54.6%	49.3%	18.7%	25.5%	22.4%	0.188	0.3%
Arunachal Pradesh	0.274	53.0%	51.7%	15.3%	28.9%	21.6%	0.237	0.1%
West Bengal	0.304	57.4%	53.1%	16.0%	30.6%	27.4%	0.217	8.0%
Meghalaya	0.307	56.6%	54.3%	15.4%	33.9%	32.5%	0.248	0.3%
Assam	0.316	60.1%	52.6%	18.4%	32.5%	27.9%	0.213	2.7%
Rajasthan	0.338	62.8%	53.8%	14.6%	35.6%	34.6%	0.250	5.9%
Orissa	0.339	63.2%	53.6%	15.7%	34.3%	35.1%	0.231	3.7%
Chhattisgarh	0.367	69.7%	52.6%	13.3%	37.6%	39.4%	0.228	2.3%
Uttar Pradesh	0.369	68.1%	54.2%	14.8%	39.3%	37.7%	0.137	16.3%
Madhya Pradesh	0.374	68.1%	54.9%	14.2%	40.5%	42.7%	0.249	6.5%
Jharkhand	0.441	74.8%	58.9%	11.9%	51.0%	46.0%	0.156	2.7%
Bihar	0.479	79.3%	60.3%	10.2%	53.5%	52.7%	0.284	8.0%

The map below shows visually how the MPI varies across regions; red indicates a higher MPI and therefore greater poverty, while green indicates a lower MPI and therefore lesser poverty.

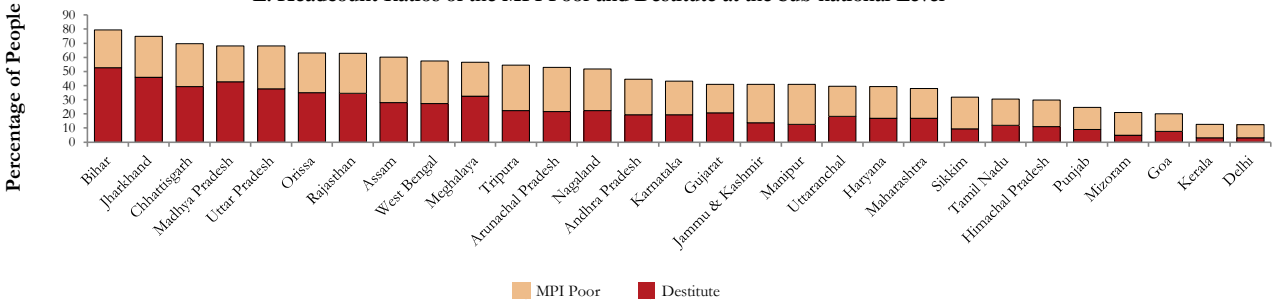
K. Mapping Poverty Rates at the Sub-national Level



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.

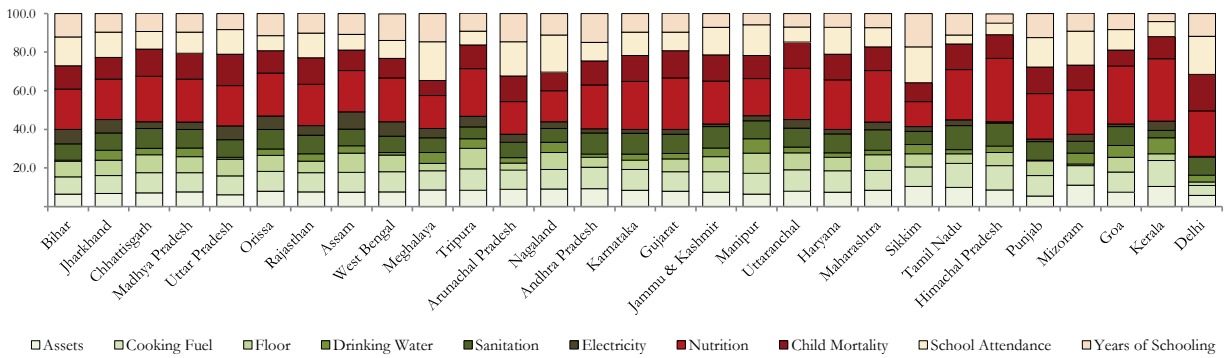
Graph L, below, shows the percentage of people who are MPI poor and - where available - the percentage of people who are also destitute in each sub-national region, from the regions with the highest levels of poverty on the left to the regions with the lowest levels of poverty on the right.

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



Graph M, below, shows the contribution of each indicator to MPI at the sub-national level. Regions with the highest levels of poverty are on the left, and those with the lowest levels of poverty on the right.

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_T) 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.

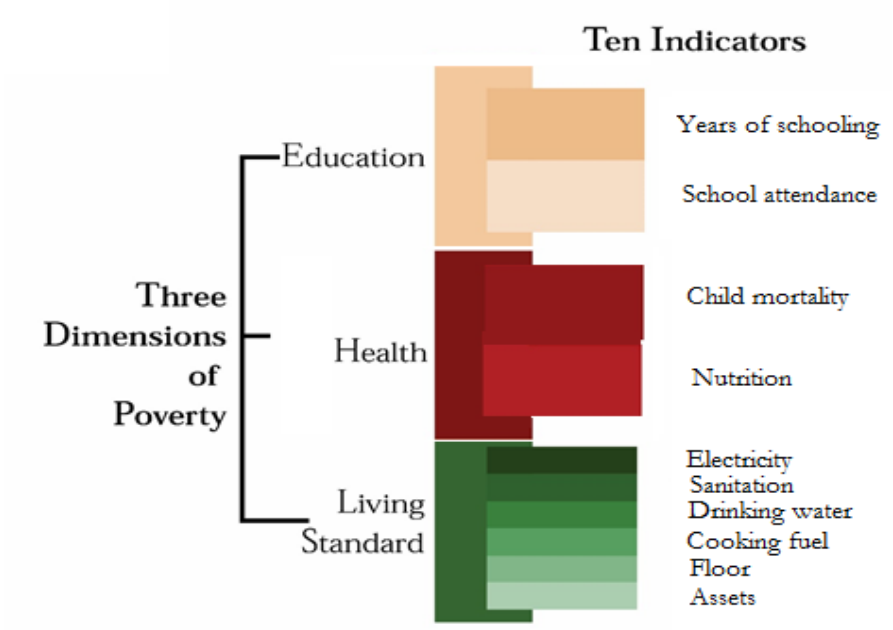
N. Changes in Multidimensional Poverty and Destitution over Time

Time Period	Region	MPI_T	H_T (Incidence)	A_T (Intensity)	H_T^D(Destitute)
1998-1999	National	0.304	57.3	53.1	31.3
2005-2006		0.254	49.0	51.9	25.1
1998-1999	Urban	0.118	24.9	47.5	9.3
2005-2006		0.098	20.9	47.0	7.3
1998-1999	Rural	0.372	69.1	53.8	39.3
2005-2006		0.323	61.4	52.6	32.9

Global Multidimensional Poverty Index 2016

Covering more than 100 countries and sub-national regions of more than 70 countries

The Global Multidimensional Poverty Index (MPI for short) is an international measure of acute poverty covering more than 100 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 weighted indicators; 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 mainly uses the most recent Demographic and Health Surveys (DHS) or Multiple Indicator Cluster Surveys (MICS) available from 2005 to 2014. We also use a few national surveys.

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

The dimensions, indicators, deprivation thresholds and weights of the MPI

Dimensions of poverty	Indicator	Deprived if…	Related to	Weight
Education	Years of Schooling	No household member aged 10 years or older has completed five years of schooling.	MDG2	1/6
	Child School Attendance	Any school-aged child+ is not attending school up to the age at which he/she would complete class 8.	MDG2	1/6
Health	Child Mortality	Any child has died in the family in the five-year period preceding the survey	MDG4	1/6
	Nutrition	Any adult under 70 years of age, or any child for whom there is nutritional information is undernourished in terms of weight for age*.	MDG1	1/6
Living Standard	Electricity	The household has no electricity.		1/18
	Improved Sanitation	The household's sanitation facility is not improved (according to MDG guidelines), or it is improved but shared with other households**.	MDG7	1/18
	Improved Drinking Water	The household does not have access to improved drinking water (according to MDG guidelines) or safe drinking water is at least a 30-minute walk from home, roundtrip***.	MDG7	1/18
	Flooring	The household has a dirt, sand, dung or 'other' (unspecified) type of floor.		1/18
	Cooking Fuel	The household cooks with dung, wood or charcoal.	MDG7	1/18
	Assets ownership	The household does not own more than one radio, TV, telephone, bike, motorbike or refrigerator and does not own a car or truck.	MDG7	1/18

+ Data Source for age children start school: United Nations Educational, Scientific and Cultural Organization, Institute for Statistics database, Table 1. Education systems [UIS, http://stats.uis.unesco.org/unesco/TableViewer/tableView.aspx?ReportId=163].

*Adults are considered malnourished if their BMI is below 18.5 m/kg2. Children are considered malnourished if their z-score of weight-for-age is below minus two standard deviations from the median of the reference population.

**A household is considered to have access to improved sanitation if it has some type of flush toilet or latrine, or ventilated improved pit or composting toilet, provided that they are not shared.

***A household has access to clean drinking water if the water source is any of the following types: piped water, public tap, borehole or pump, protected well, protected spring or rainwater, and it is within a distance of 30 minutes' walk (roundtrip).

The more extreme indicators of destitution: deprivation thresholds of those who are both MPI poor and destitute

Dimension	Indicator	Deprived if…	Related to…	Relative Weight
Education	Years of schooling	No household member has completed **at least one** year of schooling (>=1).	MDG2	1/6
	Child School Attendance	No child is attending school up to the age at which they should finish **class 6.**	MDG2	1/6
Health	Child Mortality	**2 or more children have died** in the household.	MDG4	1/6
	Nutrition	**Severe undernourishment** of any adult (**BMI<17kg/m^2**) or any child (**-3 standard deviations** from the median).	MDG1	1/6
Living Standard	Electricity	The household has no electricity (**no change**).		1/18
	Improved Sanitation	There is **no facility (open defecation).**	MDG7	1/18
	Safe Drinking Water	The household does not have access to safe drinking water, or safe water is more than a **45-minute** walk (round trip).	MDG7	1/18
	Flooring	The household has a dirt, sand, or dung floor (**no change**).		1/18
	Cooking Fuel	The household cooks with dung or wood **(coal/lignite/charcoal are now non-deprived).**	MDG7	1/18
	Assets	The household has **no assets (radio, mobile phone etc.)** and no car.	MDG7	1/18

OPHI's Global MPI Databank

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

OPHI's Global MPI Databank 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 Interactive Databank**: An interactive databank that enables you to navigate the world according to the MPI as a whole or by individual dimensions and indicators of MPI poverty. You can zoom in on individual countries, and choose whether you want to see how multidimensional poverty has changed over time.
- **MPI 2014 Papers**: The key academic papers from this year's analysis, including Seth and Alkire (2014) 'Measuring and Decomposing Inequality among the Multidimensionally Poor Using Ordinal Data: A Counting Approach'; Alkire, Roche and Vaz (2014) 'Multidimensional Poverty Dynamics: Methodology and Results for 34 Countries' and Alkire, Conconi and Seth (2014) 'Measuring Destitution in Developing Countries: An Ordinal Approach for Identifying Linked Subsets of the Multidimensionally Poor'.
- **MPI Data Tables - Main MPI Results**: A table which presents the basic MPI results and sorts 101 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 more than 900 regions of more than 70 countries.
- **MPI Data Tables – MPI over Time**: This table shows the value and confidence intervals for the main MPI results of 34 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 working 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.
- **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.