

## Multidimensional Poverty Index

The Multidimensional Poverty Index (MPI) is a new international measure of poverty. Covering 104 developing countries, the MPI complements income poverty measures by reflecting the acute deprivations that people face at the same time. It identifies people who contend with multiple deprivations across three dimensions: education, health, and living standards. The MPI was developed by the Oxford Poverty and Human Development Initiative (OPHI) and the United Nations Development Programme Human Development Report (UNDP HDR) to develop ideas and policies that can improve people's lives.

### MPI Structure

The MPI has three dimensions and uses 10 indicators (see 'Inside the MPI' box), which largely reflect the Millennium Development Goals (MDGs) and thus international standards of poverty (Alkire and Santos, 2010). Each of the three dimensions is equally weighted at one third, and each indicator within each dimension is equally weighted. The MPI methodology follows Alkire and Foster (2007).

### What Makes a Household Multidimensionally Poor?

A person is identified as multidimensionally poor if they experience deprivation in at least one third of the weighted indicators. One deprivation alone may not represent poverty.

### Why the MPI Rather than a Dashboard of Indicators?

A dashboard of indicators will show total the number of people deprived in each indicator, but it does not show who contends with several deprivations at once. The MPI focuses only on people and households that experience multiple deprivations. For example, the MPI shows the deprivations faced by Rabiya and Valérie below, who are both living in MPI poverty. It can be broken down for a person, an ethnic group, a state, or a country to reveal two layers: incidence and intensity of poverty, and a break down of MPI by indicator to show what poverty is made of. Used as an analytical tool, the MPI shows:

- **Incidence of poverty.** The percentage of multidimensionally poor people.
- **Intensity of poverty.** The average number of deprivations poor people face at the same time.
- **Composition of poverty and differences across states, ethnic groups, rural/urban areas.** Data permitting, the MPI can be broken down by indicator or group to show the composition of multidimensional poverty for different regions, ethnic groups and other key household and community characteristics—which is useful for policy responses.

### Inside the MPI

- 1. Education** (each indicator is weighted equally at 1/6)
  - Years of Schooling:** deprived if no household member has completed five years of schooling
  - School Attendance:** deprived if any school-aged child is not attending school in years 1 to 8
- 2. Health** (each indicator is weighted equally at 1/6)
  - Child Mortality:** deprived if any child has died in the family
  - Nutrition:** deprived if any adult or child for whom there is nutritional information is malnourished
- 3. Standard of Living** (each indicator is weighted equally at 1/18)
  - Electricity:** deprived if the household has no electricity
  - Drinking Water:** deprived if the household does not have access to clean drinking water or clean water is more than 30 minutes walk from home
  - Sanitation:** deprived if they do not have adequate sanitation or if their toilet is shared
  - Flooring:** deprived if the household has a dirt, sand or dung floor
  - Cooking Fuel:** deprived if the household cooks with wood, charcoal or dung
  - Assets:** deprived if the household does not own more than one of: radio, TV, telephone, bike, motorbike, or refrigerator and does not own a car or tractor



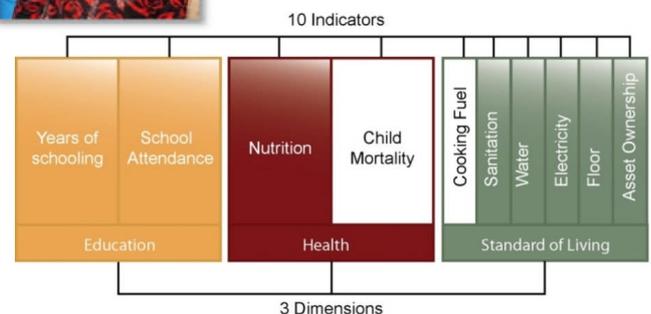
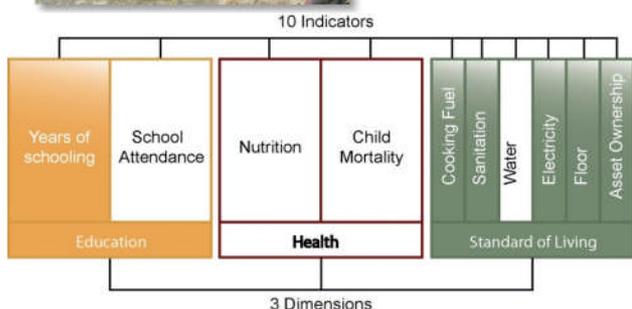
**Rabiya, Bihar, India**

The shaded indicators show the deprivations that Rabiya faces. Her family is deprived in 44% of the indicators.



**Valérie, Madagascar**

The shaded indicators show the deprivations that Valérie faces. Her family is deprived in 78% of the indicators.



## Key Findings:

- The MPI is estimated for 104 countries representing 5.2 billion people, 92% of the population of developing countries and 78.5% of the world's population (2007).
- 1.7 billion people, 32%, are identified as multidimensionally poor.
- 51% of the MPI poor people live in South Asia and 28% in sub-Saharan Africa.
- Countries with the highest incidence of poverty tend to have the highest intensity of poverty.
- Countries do not need to have reached middle income status to have low MPI.
- Among the 93 countries for which income poverty data are published, the incidence of MPI poverty is higher than \$1.25/day for 57 countries, and lower than \$1.25/day for 36. This means that a number of countries which have succeeded in reducing monetary poverty still face massive challenges in other dimensions of deprivation.
- MPI varies across region and ethnic group: for example, in Kenya 60% of people are deprived on average but among Masai it is 96%, compared to 39% among the Kikuyu.
- Eight States of India have an MPI above 0.32; they are home to 421 million people - more people than the 26 African countries that also have an MPI above 0.32 (410 million).
- The composition of multidimensional poverty varies. For example, nutritional deprivations among the multidimensionally poor are highest in South Asia.

## Data

The 2010 MPI forms a baseline for subsequent work. It is based on the latest data that was publicly available in January 2010 from three sources: Demographic and Health Surveys (DHS), Multiple Indicator Cluster Surveys (MICS), and the World Health Survey (2003). Subsequent HDRs will include updated MPIs. However, the overall data availability is surprisingly weak, underlining the importance of efforts to improve the coverage and regularity of such information. Data on important dimensions is also missing – in particular for quality of education, work, empowerment, consumption or violence. More and better data are needed – for the same people.

## Is the MPI Robust?

The MPI country rankings are robust to a plausible range of weights and cutoffs:

- 95% of country comparisons do not change if the poverty cutoff ranges freely from 20% to 40% of the dimensions.
- Rank correlations are high (0.87 and above for Kendall Tau b; 0.97 for Spearman) if alternative indicators and cutoffs are used – such as stunting or wasting instead of child weight-for-age scores.
- If the weights are varied using three additional structures (giving 50% to one dimension and 25% to the others in turn), rank correlations with the MPI are greater than 0.90. 88% of pairwise comparisons are robust and the null hypothesis of rank independence is rejected at 99% confidence. Hence the MPI is robust to a range of weights. See [OPHI Research in Progress 22a: 'Is the Multidimensional Poverty Index robust to different weights?'](#) for more information.

## National Multidimensional Poverty Measures

The international MPI was devised as a tool to compare acute poverty across nations. The MPI approach can usefully be adapted using country-specific data and indicators to generate richer national multidimensional poverty measures that reflect local cultural, economic, climatic and other factors. Mexico, Bhutan and Colombia have developed, or are developing, their own national multidimensional measures with indicators and cutoffs tailored to their context and goals.

## Prospects

The 2010 MPI has been introduced in the HDR 2010 as an experimental series. It aims to inform and to stimulate debate on how to create multidimensional poverty measures for different countries and contexts.

OPHI and collaborators are also investigating topics such as multidimensional poverty dynamics, trade-offs between indicators, the relationship of MPI to income poverty, household composition effects, the components and sequences of policies associated with multidimensional poverty reduction, and specific country studies. Feedback, suggestions, collaboration and criticisms are welcomed, at: [www.ophi.org.uk/about/contact-us](http://www.ophi.org.uk/about/contact-us).

*Alkire, S. and Foster, J. 2007. Counting and Multidimensional Poverty Measurement. OPHI Working Paper 7.*

*Alkire, S. and Santos, M.E. 2010. Acute Multidimensional Poverty: A New Index for Developing Countries. OPHI Working Paper 38.*

*Alkire, S., Santos, M.E., Seth, S. and Yalonetzky, G. 2010. Is the Multidimensional Poverty Index robust to different weights? OPHI Research in Progress 22a.*

## Learn more

<http://www.ophi.org.uk/policy/multidimensional-poverty-index/>

<http://hdr.undp.org/en>