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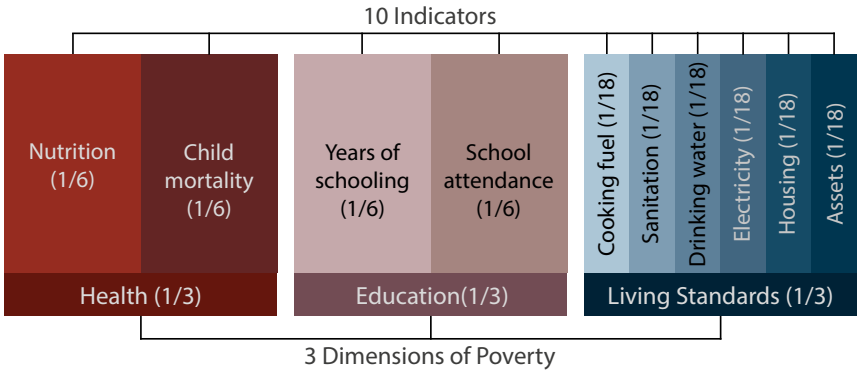
Global MPI Country Briefing 2018: Zimbabwe (Sub-Saharan Africa)

The Global MPI

The global Multidimensional Poverty Index (MPI) was created using the multidimensional measurement method of Alkire and Foster (AF).[1] The global MPI is an index of acute multidimensional poverty that covers over 100 countries. It is computed using data from the most recent Demographic and Health Surveys (DHS), Multiple Indicator Cluster Surveys (MICS), Pan Arab Project for Family Health (PAPFAM) and national surveys. The MPI has three dimensions and 10 indicators as illustrated in figure 1. Each dimension is equally weighted, and each indicator within a dimension is also equally weighted.[2] Any person who fails to meet the deprivation cutoff is identified as deprived in that indicator. So the core information the MPI uses is the profile of deprivations each person experiences. Each deprivation indicator is defined in table A.1 of the appendix.

Figure 1. Structure of the Global MPI



In the global MPI, a person is identified as multidimensionally poor or MPI poor if they are deprived in at least one third of the weighted MPI indicators. In other words, a person is MPI poor if the person's weighted deprivation score is equal to or higher than the poverty cutoff of 33.33%. Following the AF methodology, the MPI is calculated by multiplying the **incidence** of poverty (H) and the average **intensity** of poverty (A). More specifically, H is the proportion of the population that is multidimensionally poor, while A is the average proportion of dimensions in which poor people are deprived. So, $MPI = H \times A$, reflecting both the share of people in poverty and the degree to which they are deprived.

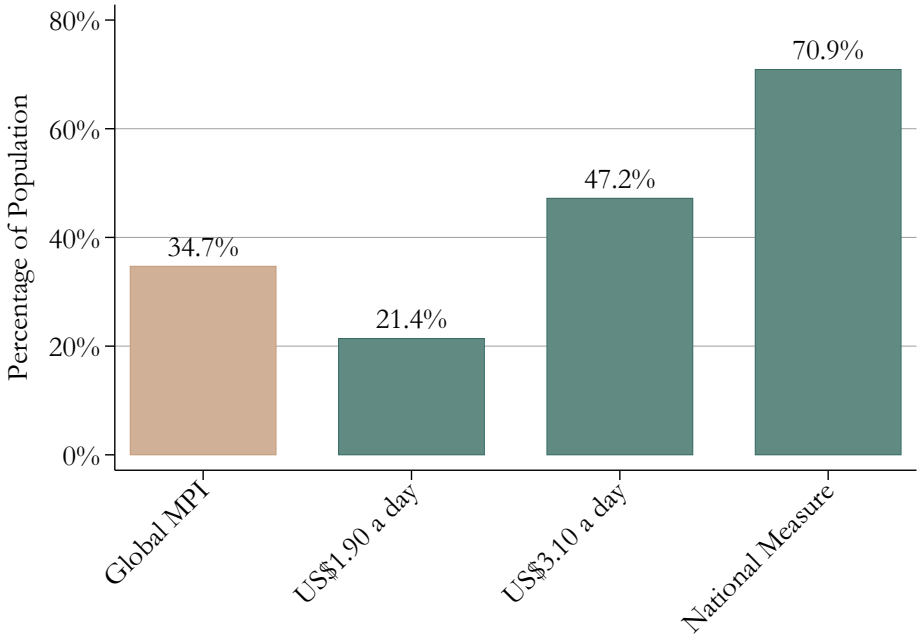
Table 1. Global MPI in Zimbabwe

Area	MPI	H	A	Vulnerable	Severe Poverty	Population Share
National	0.149	34.7%	42.9%	26.3%	8.8%	100.0%
Urban	0.030	7.7%	39.2%	14.6%	1.0%	29.9%
Rural	0.200	46.2%	43.2%	31.3%	12.1%	70.1%

Notes: Source: DHS year 2015, own calculations.

[1] A formal explanation of the method is presented in Alkire and Foster (2011). An application of the method is presented in Alkire and Santos (2014).
[2] It should be noted that the AF method can be used with different indicators, weights and cutoffs to develop national MPIs that reflect the priorities of individual countries. National MPIs are more tailored to the context but cannot be compared.

Figure 2. Headcount Ratios by Poverty Measures



Notes: Source for global MPI: DHS, year 2015, own calculations. Monetary poverty measures are the most recent estimates from World Bank (World Bank, 2018). Monetary poverty measure refer to 2011 ($1.90 a day), 2011 ($3.10 a day), and 2001* (national measure).

A headcount ratio is also estimated for two other ranges of poverty cutoffs. A person is identified as **vulnerable** to poverty if they are deprived in 20–33.33% of the weighted indicators. Concurrently, a person is identified as living in **severe poverty** if they are deprived in 50–100% of the weighted indicators. A summary of the global MPI statistics are presented in table 1 for national, rural and urban areas.

A brief methodological note is published following each round of global MPI update. For example, for the global MPI December 2018 update, please refer to Alkire **et al.** (2018). The note explains the methodological adjustments that were made while revising and standardizing indicators for over 100 countries. As such, it is useful to refer to the methodological notes with this country brief for specialized information on how the country survey data was managed.[3]

Poverty Headcount Ratios

Figure 2 compares the headcount ratios of the global MPI and monetary poverty measures. The height of the first bar of figure 2 shows the percentage of people who are MPI poor. The second and third bars represent the percentage of people who are poor according to the World Bank's $1.90 a day and $3.10 a day poverty line. The final bar denotes the percentage of people who are poor according to the national income or consumption and expenditure poverty measures.

[3]Previous methodological notes, published for each round of update, are made available on the OPHI website:http://ophi.org.uk/multidimensional-poverty-index/mpi-resources/.

Figure 3. Headcount Ratios for Global MPI, Severe Poverty and $1.90/day

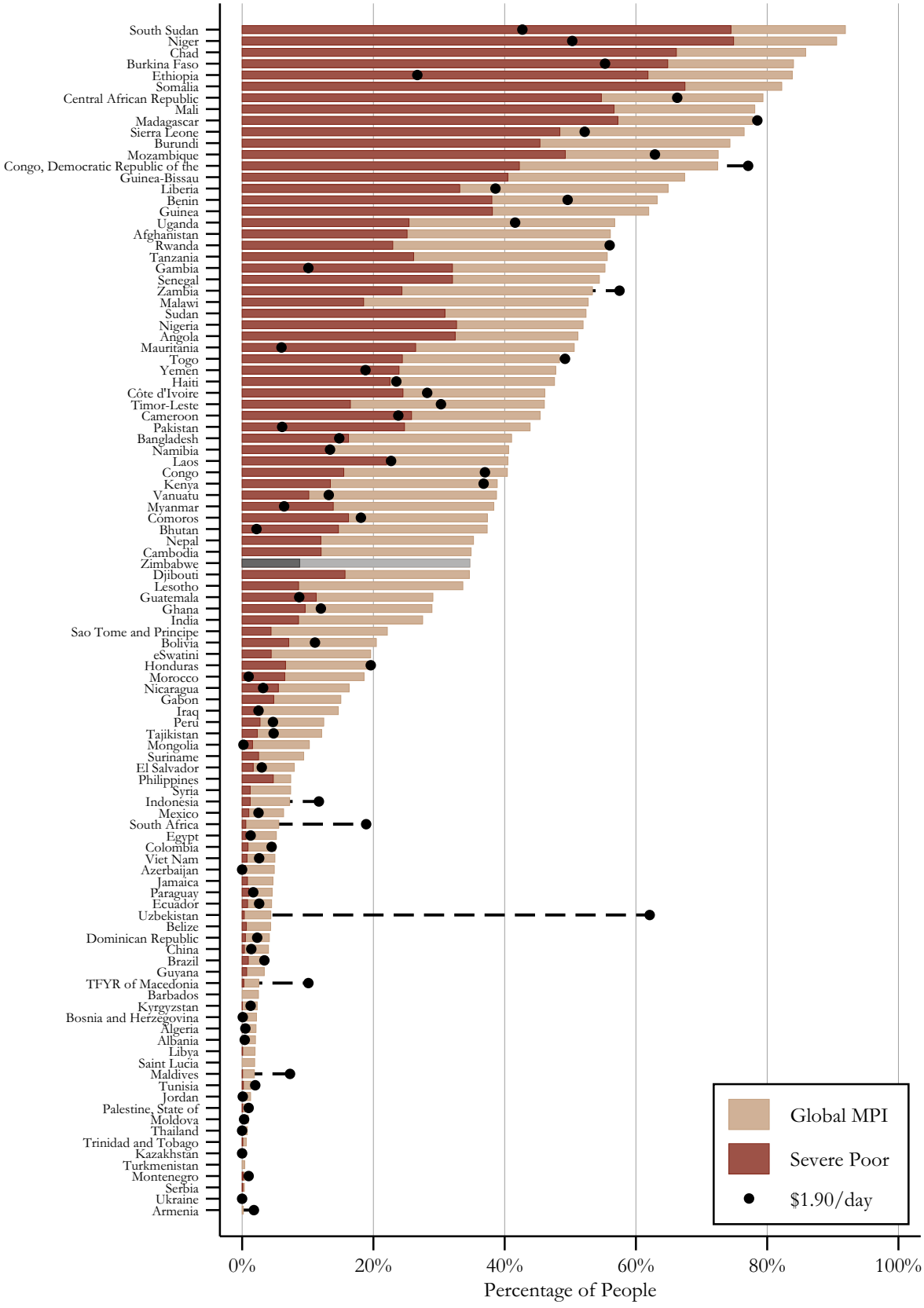
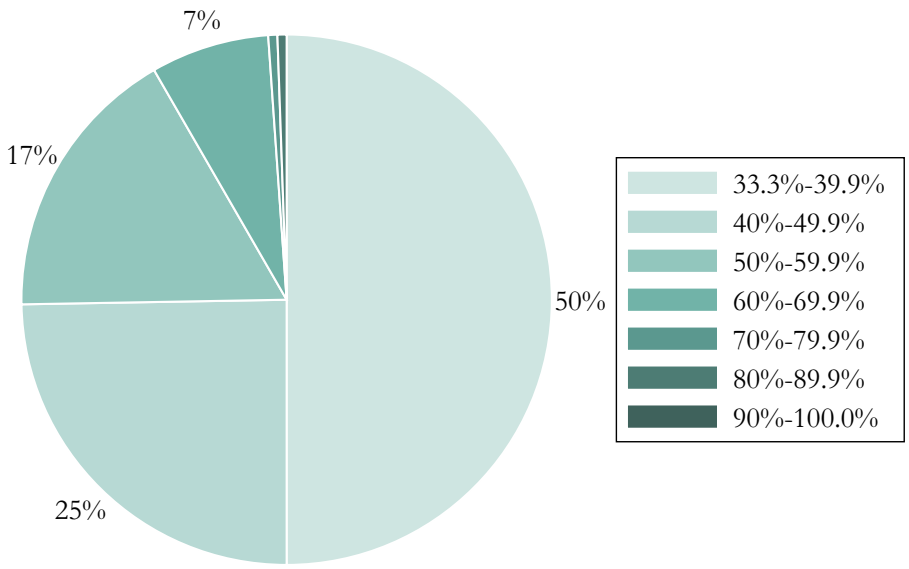


Figure 3 shows the percentage of people who are MPI poor in the countries analyzed. The bar denoting this country is in grey, with other countries shown in color. The percentage of people who are MPI poor is shown in beige. The height at each dot denotes the percentage of people who are monetary poor according to the $1.90 a day poverty line in each country. The monetary poverty statistics are taken from the year closest to the year of the survey used to calculate the MPI. The year of the survey is provided in the footnote of figure 2 and 3. In cases where a survey was conducted over two calendar years, the later period is taken as the reference year.

Intensity of Multidimensional Poverty

Recall that the intensity of poverty (A) is the average proportion of weighted indicators in which poor people 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. Figure 4 shows the percentage of MPI poor people who experience different intensities of deprivation. For example, the first slice of the pie chart shows deprivation intensities of greater than 33.33% but strictly less than 40%.

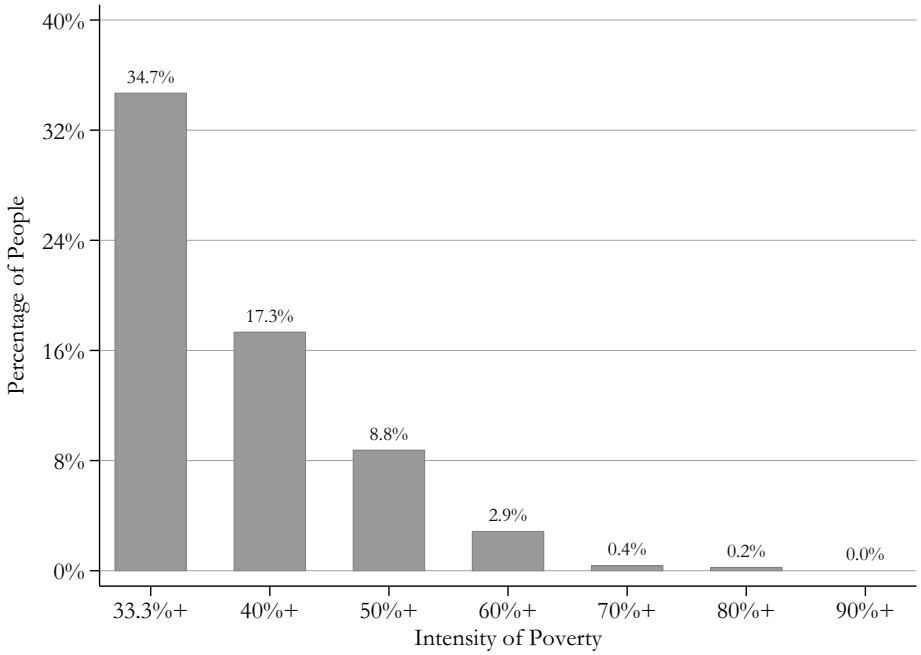
Figure 4. Intensity of Deprivation among MPI Poor



Notes: Source: DHS year 2015, own calculations. Depicted slices without label account for 1% or less.

In contrast, the bar graph in figure 5 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 of weighted indicators. For example, people who are deprived in 50% or more of the indicators are the subset of MPI poor people who are identified as living in **severe** poverty.

Figure 5. Share of People by Minimum Deprivation Score



Notes: Source: DHS year 2015, own calculations. Category 33.3+% is equivalent to headcount ratio of global MPI, category 50+% corresponds to Severe Poverty of global MPI.

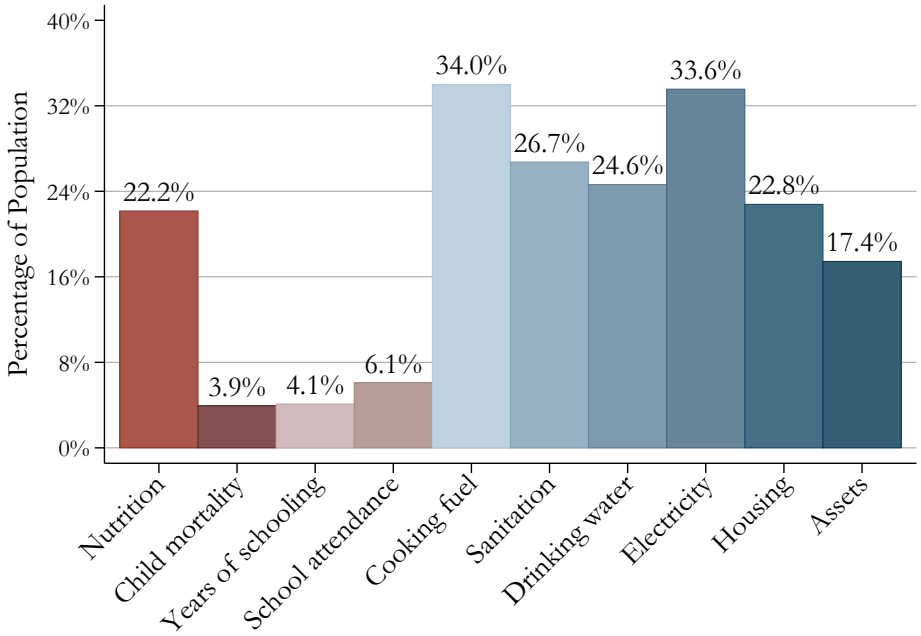
Analyzing the Composition of Multidimensional Poverty

Dimensional Breakdown. The AF methodology has a property that makes the global MPI even more useful—dimensional breakdown. This property makes it possible to compute the percentage of the population who are multidimensionally poor and simultaneously deprived in each indicator. This is known as the **censored headcount ratio** of an indicator. Figure 6 shows the censored headcount ratio of each indicator at the national level. Poverty information, however, becomes even more valuable when it is disaggregated by urban and rural areas. Figure 7 illustrates the breakdown by indicators by country, and urban and rural areas. This analysis shows the contribution of different indicators to poverty in different areas, which can reveal structural differences in urban and rural poverty. This in turn could mean different policy responses in different areas, making the MPI useful for monitoring the effects of policy shifts and program changes.

Percentage Contribution. The censored headcount ratio shows the extent of deprivations among the poor but does not reflect the relative value of the indicators. Two indicators may have the same censored headcount ratios but different contributions to overall poverty, because the contribution depends both on the censored headcount ratio and on the weight assigned to each indicator. As such, a complementary analysis to the censored headcount ratio is the **percentage contribution** of each indicator to overall multidimensional poverty.

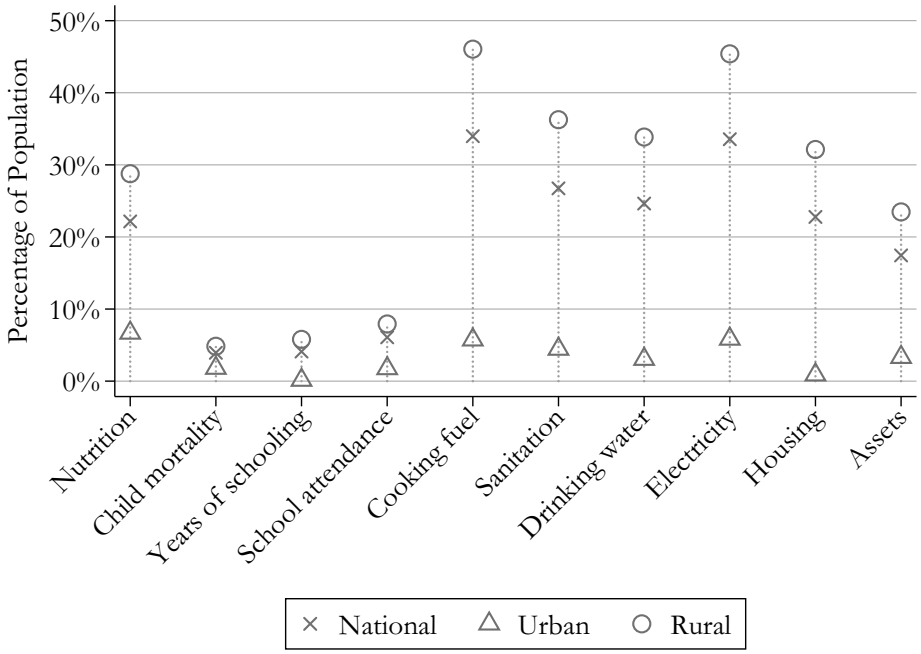
Figure 8 contains two bar graphs that compare the percentage contribution of each indicator to national, rural and urban poverty. In the bar graph on the left-hand side, colors inside each bar denote the percentage contribution of each indicator to the overall MPI, and all bars add up to 100%. In the bar graph on the right, the height of each bar shows the contribution of each indicator to MPI. This enables an immediate visual comparison of the composition of poverty across areas.

Figure 6. Censored Headcount Ratios



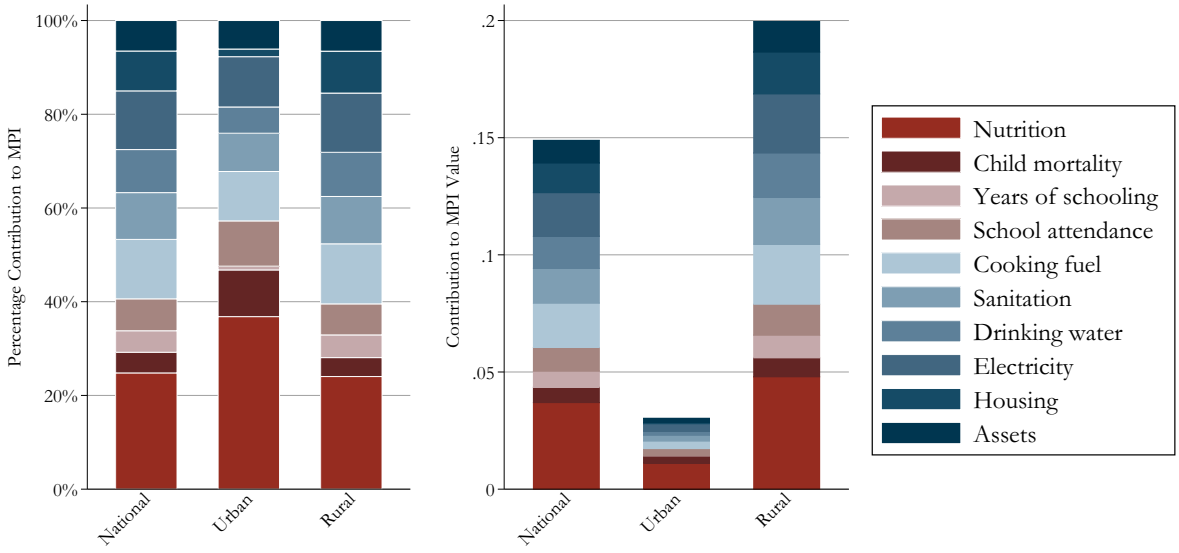
Notes: Source: DHS year 2015, own calculations.

Figure 7. Censored Deprivations by Area



Notes: Source: DHS year 2015, own calculations.

Figure 8. Indicator Contribution to Overall Poverty by Area



Notes: Source: DHS year 2015, own calculations.

Table 2. Global MPI in Zimbabwe by Subnational Region

Region	MPI	*H*	*A*	Vulnerable	Severe Poverty	Population Share
Manicaland	0.173	40.7%	42.5%	27.1%	10.3%	14.4%
Mashonaland Central	0.207	47.5%	43.5%	30.3%	13.5%	9.7%
Mashonaland East	0.135	32.7%	41.2%	28.2%	5.4%	10.2%
Mashonaland West	0.179	40.6%	44.0%	28.3%	12.7%	12.0%
Matabeleland North	0.210	48.5%	43.4%	33.8%	13.2%	5.2%
Matabeleland South	0.174	41.5%	42.0%	31.6%	10.6%	4.9%
Midlands	0.176	40.9%	42.9%	28.4%	9.2%	12.6%
Masvingo	0.174	39.6%	44.0%	31.6%	10.8%	12.4%
Harare	0.036	9.0%	40.3%	13.3%	1.2%	14.0%
Bulawayo	0.010	2.7%	36.5%	10.8%	0.0%	4.6%

Notes: Source: DHS year 2015, own calculations.

Subnational Analyses

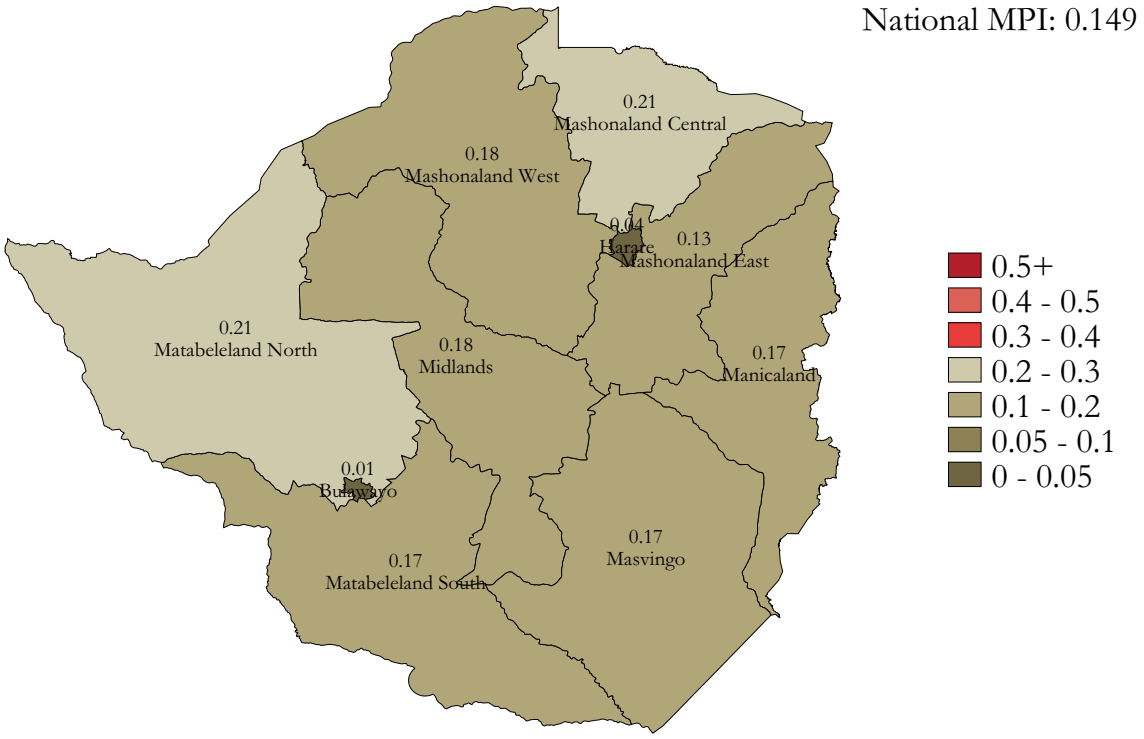
In addition to providing data on multidimensional poverty at the national and urban-rural level (as shown in table 1), the MPI can also be computed by subnational regions to show disparities in poverty within countries. Subnational disaggregations are published when the survey used for the global MPI is representative at the subnational level.

Table 2 shows a summary of the global MPI statistics by subnational region. The last column of the table also presents the population share of each region. The population share was obtained by applying the sampling weight in the respective survey dataset to the final sample used for the computation of the reported poverty statistics in this country profile. The population-weighted regional figures on MPI, H and A add up to the national figures.

Figure 9 shows how the MPI varies across regions. Dark red indicates a higher MPI and therefore greater poverty, while dark green indicates a lower MPI and therefore lower poverty.

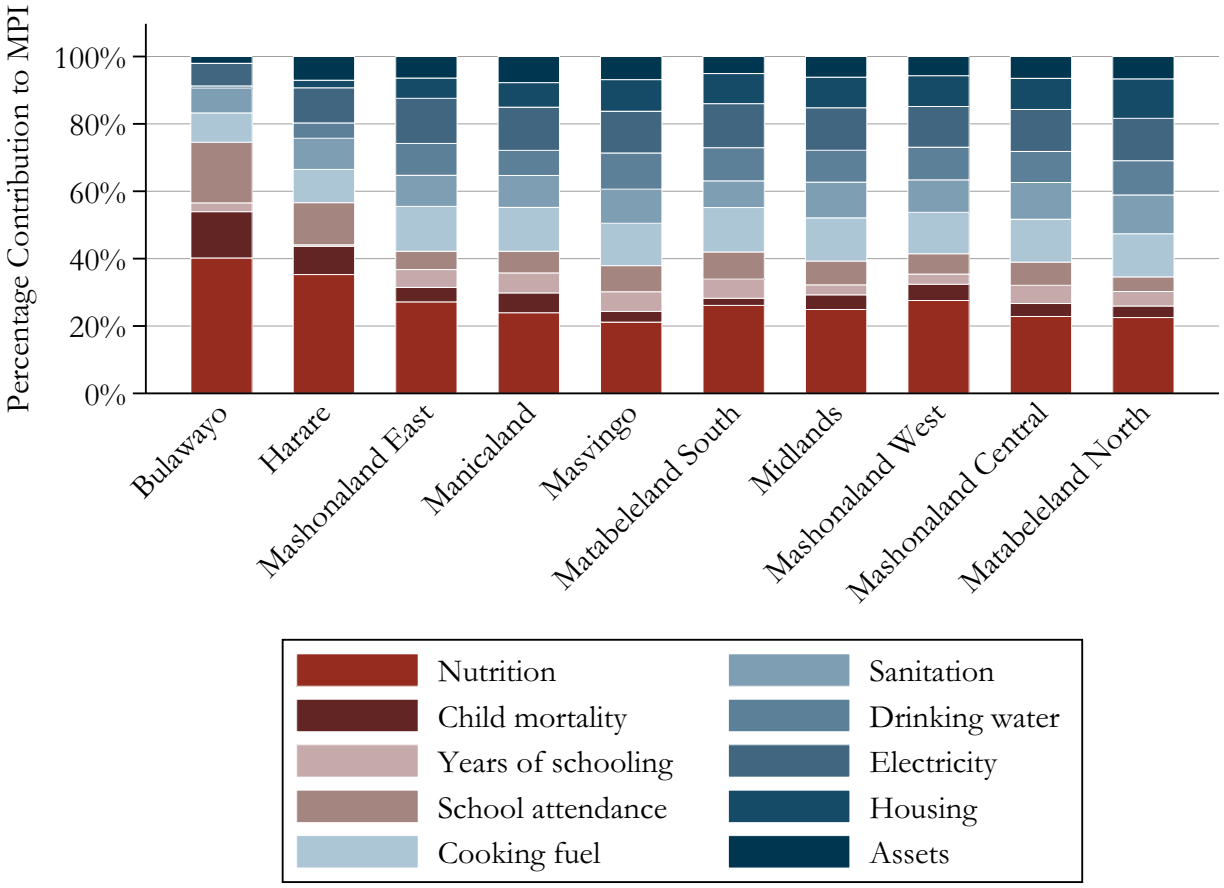
Figure 10 shows the contribution of each indicator to overall MPI at the subnational level. The regions are

Figure 9. Mapping MPI Value by Subnational Region



Notes: Source: DHS year 2015, own calculations. Underlying shp-file from The Demographic and Health Surveys Program (2018).

Figure 10. Indicator Contribution to Global MPI of Subnational Regions



Notes: Source: DHS year 2015, own calculations.

sorted by increasing values of the global MPI with the poorest region on the right.

Appendices

Table A.1. Global MPI

Dimension	Indicator	Deprived if ...	Related to	Weight
Health	Nutrition	Any person under 70 years of age for whom there is nutritional information is **undernourished**[+].	SDG 2	$\frac{1}{6}$
	Child mortality	**Any child** has died in the family in the five-year period preceding the survey.	SDG 3	$\frac{1}{6}$
Education	Years of schooling	No household member aged 10 years or older has completed **six years** of schooling.	SDG 4	$\frac{1}{6}$
	School attendance	Any school-aged child[++] is not attending school up to the age at which he/she would complete **class 8**.	SDG 4	$\frac{1}{6}$
Living Standards	Cooking fuel	A household cooks with dung, agricultural crop, shrubs, wood, charcoal or coal.	SDG 7	$\frac{1}{18}$
	Sanitation	The household's **sanitation facility** is **not improved** (according to SDG guidelines) or it is **improved but shared** with other households.[*]	SDG 6	$\frac{1}{18}$
	Drinking water	The household does **not have access** to **improved drinking water** (according to SDG guidelines) or safe drinking water is at least a **30-minute walk** (roundtrip) from home.[**]	SDG 6	$\frac{1}{18}$
	Electricity	The household has **no electricity**	SDG 7	$\frac{1}{18}$
	Housing	The household has **inadequate housing**: the floor is of natural materials or the roof or walls are of natural or rudimentary materials.[***]	SDG 11	$\frac{1}{18}$
	Assets	The household does **not own more than one** of these **assets**: radio, TV, telephone, computer, animal cart, bicycle, motorbike, or refrigerator, and does not own a car or truck.	SDG 1	$\frac{1}{18}$

Notes: The global MPI is related to the following SDGs: No Poverty (SDG 1), Zero Hunger (SDG 2), Health & Well-being (SDG 3), Quality Education (SDG 4), Clean Water & Sanitation (SDG 6), Affordable & Clean Energy (SDG 7), Sustainable Cities & Communities (SDG 11).

[+] Adults 20 to 70 years are considered malnourished if their Body Mass Index (BMI) is below 18.5m/kg^2. Those 5 to 20 are identified as malnourished if their age-specific BMI cutoff is below minus two standard deviations. Children under 5 years are considered malnourished if their z-score of either height-for-age (stunting) or weight-for-age (underweight) is below minus two standard deviations from the median of the reference population. In a majority of the countries, BMI-for-age covered people aged 15–19 years, as anthropometric data was only available for this age group; if other data were available, BMI-for-age was applied for all individuals above 5 years and under 20 years.

[++] Data source for age children start compulsory primary school: DHS, MICS or national country survey reports; or http://data.uis.unesco.org/

[*] 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. If country survey report uses other definitions of 'adequate' sanitation, we follow the survey report.

[**] 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 30 minutes' walk (round trip). If survey report uses other definitions of 'safe' drinking water, we follow the country survey report.

[***] Deprived if floor is made of mud/clay/earth, sand, or dung; or if dwelling has no roof or walls or if either the roof or walls are constructed using natural materials such as cane, palm/trunks, sod/mud, dirt, grass/reeds, thatch, bamboo, sticks, or rudimentary materials such as carton, plastic/polythene sheeting, bamboo with mud/stone with mud, loosely packed stones, adobe not covered, raw/reused wood, plywood, cardboard, unburnt brick, or canvas/tent.

References

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All figures presented in this brief are obtained from the MPI Data Tables. These and other related statistics are freely available under https://ophi.org.uk/multidimensional-poverty-index/global-mpi-2018/. This country briefing was last updated in December 2018.

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