

Multidimensional Poverty and COVID-19 Risk Factors: A Rapid Overview of Interlinked Deprivations across 5.7 Billion People

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Multidimensional poverty data and measurement are key allies in confronting the threat posed by the COVID-19 pandemic. Formulating an effective response to this global crisis requires an understanding of the overlapping deprivations faced by people in the developing world, deprivations that can result in increased vulnerability to COVID-19.² The global Multidimensional Poverty Index (MPI) provides clear, immediate evidence of these interlinked deprivations, making interventions more effective, high impact, and durable.

This briefing uses the global MPI database for 2019, which covers 101 countries and 5.7 billion people in the developing world, to show at a glance some surprising but critical facts for the COVID-19 response.³ The key messages are:

- **Deprivations overlap.** Of the 1.3 billion people who are poor according to the global MPI, 98.8% are deprived in three or more indicators. The global MPI covers 5.7 billion people – 91% of the population in developing regions.
- Deprivations in **water, nutrition, and cooking fuel** predict a high risk from COVID-19 in terms of hygiene, weakened immune systems, and respiratory conditions. Yet 472 million people are simultaneously experiencing a lack of access to safe drinking water,

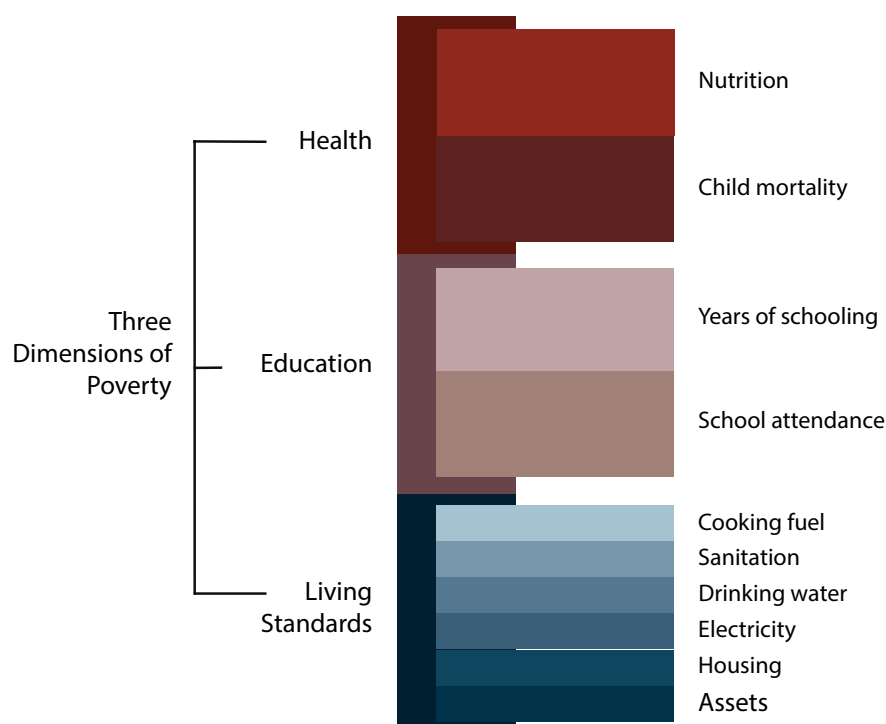
indoor air pollution, and undernutrition in their household.

- In sub-Saharan Africa, 57.5% of the population is MPI poor, and 492 million are deprived in water.
- In South Asia, 31% of the population is MPI poor, 651 million people are deprived in nutrition, around 72% are deprived in at least two additional indicators, and more than half of them (55.6%) are also deprived in at least three.
- In Latin America, 142 million people are at risk from COVID-19 – deprived in at least one of the risk indicators.

COVID-19 RISK AND THE GLOBAL MPI

The global MPI captures the overlapping deprivations that poor people experience across ten indicators in the dimensions of education, health, and living standards. These indicators (see Figure 1) also provide leading, timely information about risks and vulnerabilities related to COVID-19.⁴ **Unsafe drinking water** is associated with much of the global disease burden and weakened immune systems (WHO 2019; UNICEF-WHO 2017).⁵ **Undernutrition** is strongly associated with weakened immune systems, morbidity, and mortality – particularly among young children (WHO 2018; UNICEF-WHO-The World Bank

Figure 1. Structure of the global MPI



Source: OPHI.

2020). Deprivation in clean cooking fuel is associated with indoor air pollution and acute respiratory infections, implying an increased risk to COVID-19, which attacks the lungs (WHO 2018a; Gordon et al. 2014).

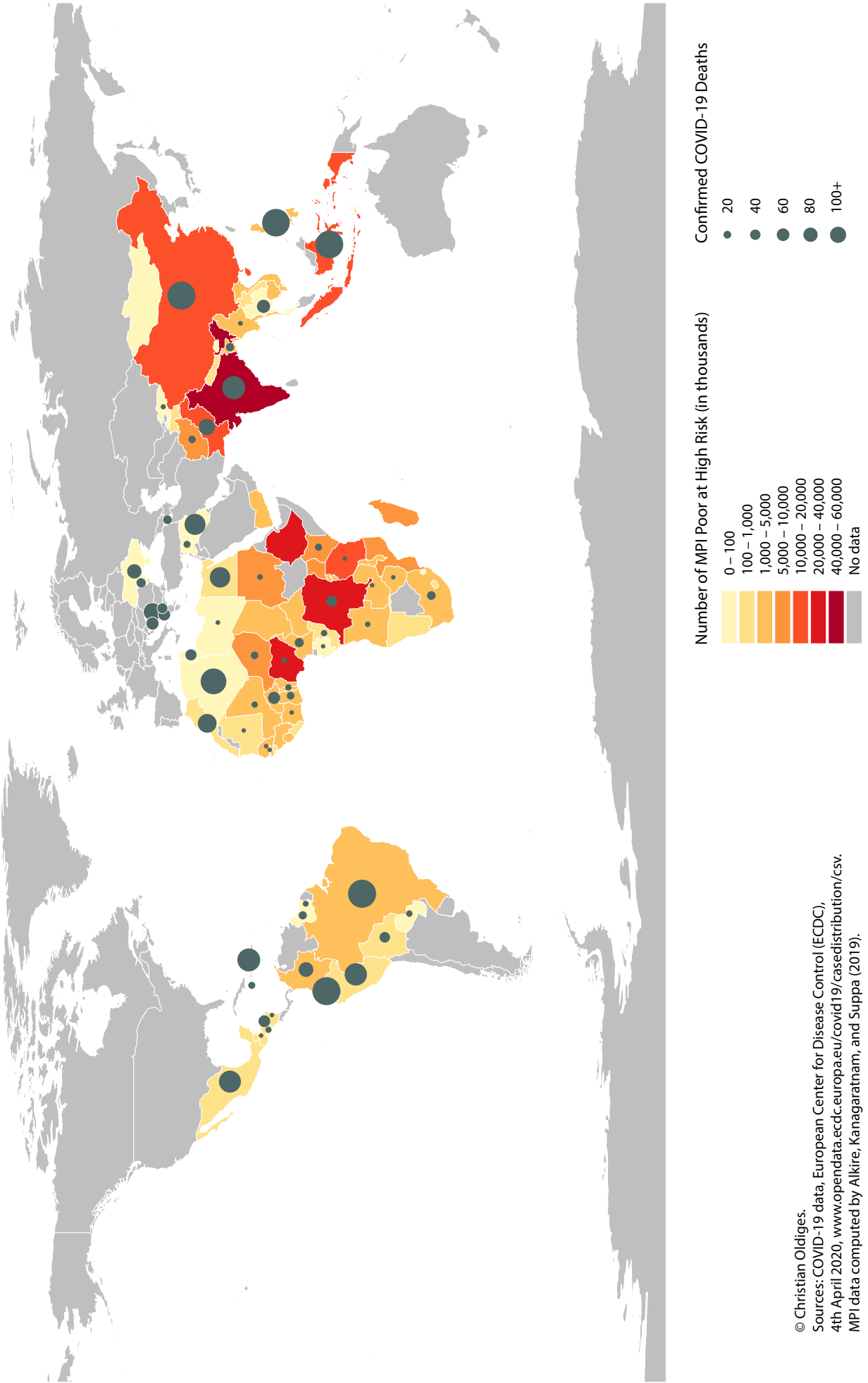
As of 4th April, the already disastrous COVID-19 pandemic is just beginning to spread to developing regions. The countries that are in dark red or red on the map in Figure 2 are those where the number of the MPI poor who have all three of these COVID-19 risk indicators, is the highest. The blue dots indicate where confirmed deaths from COVID-19 have spread so far. Across the world, the ten countries most vulnerable to COVID-19 according to these three indicators are India (60 million), Nigeria (39 million), Ethiopia (38 million), Democratic Republic of Congo (32 million), China (16 million), Tanzania (12 million), Indonesia (11 million), Pakistan (10 million), Afghanistan (10 million), and Uganda (9 million).

I. MULTIPLE DEPRIVATIONS

Of the 1.3 billion people who are MPI poor – meaning that each person is deprived in at least one-third of the dimensions at the same time – only 160 million are deprived in two out of ten indicators. Fully 98.8% of all MPI poor people are deprived in three or more indicators,⁶ and 82.3% are deprived in five or more indicators. Two-thirds of MPI poor people face six or more deprivations simultaneously. So COVID-19 is not their only problem.

Considering the nature of multidimensional poverty – i.e. the experience of facing multiple deprivations simultaneously – the global MPI database can be used to gauge the number of poor people who are at immediate risk of suffering from COVID-19, on top of pre-existing life struggles. They are among those who should take highest priority.

Figure 2. Number of people who are MPI poor and are at high risk from COVID-19 (red) with number of COVID-19 deaths (dark green)



II. COVID-19 RISK FACTORS: UNSAFE WATER, UNDERNUTRITION, INDOOR AIR POLLUTION

Among the ten MPI indicators, a lack of access to clean drinking water, undernutrition, and no clean cooking fuel put people at high risk to COVID-19. This briefing presents the joint distribution of these three COVID-19 risk factors.

Population in the developing world

- **3.6 billion** people, or 62.6% of the 5.7 billion people living in the 101 countries of developing regions covered by the 2019 global MPI, are affected by at least one COVID-19-related deprivation. They are ‘**at risk**’.
- Fully **472 million** people are deprived all three COVID-19 risk factors **at the same time**. They are at ‘**high risk**’.

MPI poor population in the developing world

- Almost all (98.2%) of the **1.3 billion** people who are multidimensionally poor according to the global MPI face at least one risk factor.
- Among them, **355 million** people are at **high risk** as they are facing all three risk factors simultaneously.

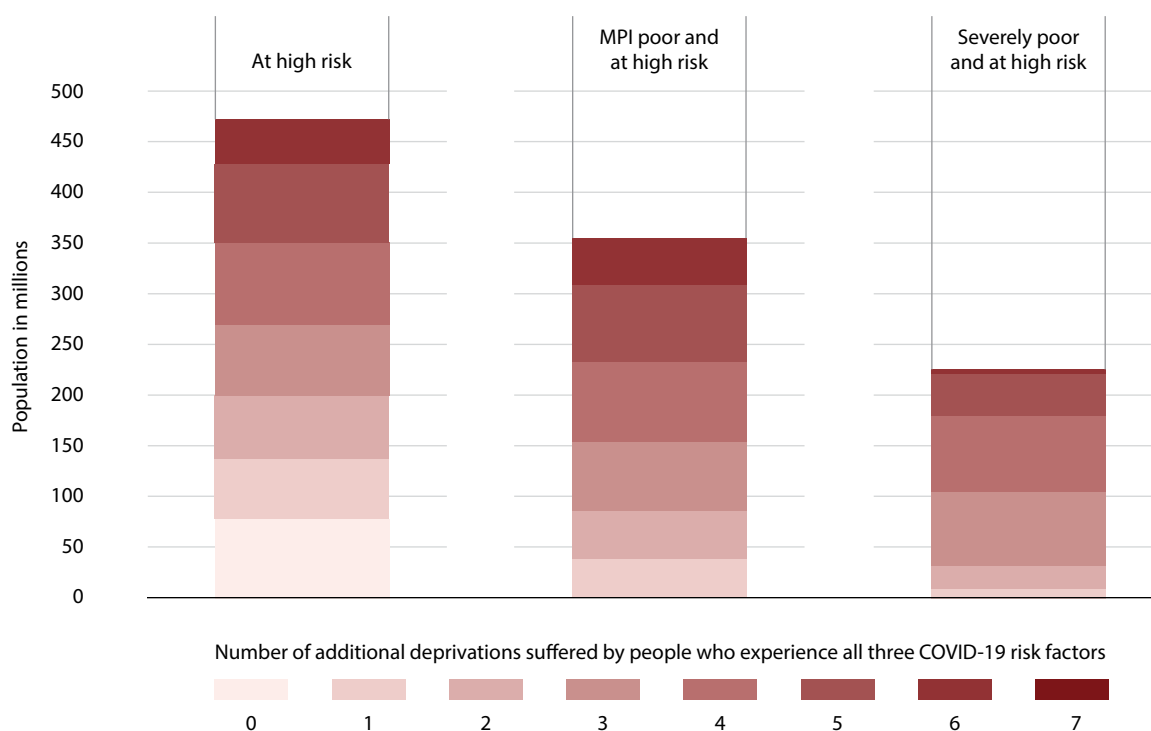
- Over half of the MPI poor people who are at high risk (56.9%) are deprived in seven or more of the ten global MPI indicators (including all three risk factors).

Deprivations in nutrition, water, and indoor air pollution

The global pandemic requires prioritisation and targeted responses. The people most at risk and in need of targeted policy responses are those facing several simultaneous deprivations. Globally, **472 million** people suffer from all three COVID-risk indicators at the same time – high risk; and, **355 million** are MPI poor and at high risk. Among them, **228 million** face severe multidimensional poverty – they are deprived in at least half the ten global MPI indicators and are at high risk for COVID-19.

Figure 3 depicts the 472 million people at high risk on the left-hand side. The height of each stripe shows the number of people who experience all three risk factors plus the number of additional deprivations. Nearly 83.5% of them have one or more additional deprivation, with 60 million having only one additional deprivation. Most experience four (82 million) or three (74 million) additional deprivations, on top of all three COVID-19 risk factors. Among those who are multidimensionally poor,

Figure 3. High-risk persons (in millions) and their additional deprivations



Source: MPI data computed by Alkire, Kanagaratnam and Suppa (2019).

over 200 million are at high risk from COVID-19 and deprived in seven or more of the ten global MPI indicators. More than half (120 million) of those who are severely multidimensionally poor and at high risk from COVID-19 experience at least eight overlapping deprivations.

III. REGIONAL PATTERNS OF MPI AND COVID-19

Table 1 shows COVID-19 risk and multidimensional poverty across six world regions.

Key findings are:

- 1.3 billion people in South Asia face at least one COVID-19 risk factor – they are at risk.
- 540 million people in South Asia and 570 million people in sub-Saharan Africa are MPI poor and at risk of COVID-19 (facing at least one COVID-19 risk factor).
- Sub-Saharan Africa bears the highest burden: almost 90% of the population, 882 million people, are experiencing at least one COVID-19 risk factor.
- In sub-Saharan Africa, 216 million people are MPI poor and at high risk from COVID-19, suffering from all three COVID-19 risk factors.
- 169 million people in sub-Saharan Africa experience severe multidimensional poverty (deprived in at least

half of the global MPI dimensions) and are at high risk from COVID-19.

IV. DISAGGREGATION WITHIN COUNTRIES: THE CASE OF NIGERIA

With a population of almost 200 million, Nigeria is the most populous country in Africa. According to monetary poverty (\$1.90 a day), it accounts for the highest number of poor people globally. In terms of the global MPI for Nigeria, based on 2016–17 figures, about 100 million people are multidimensionally poor (see Figure 4). Zooming into the COVID-19 indicators, around 40 million people are multidimensionally poor and also deprived in all three risk factors: nutrition, water, and cooking fuel. This large number of poor people – equivalent almost to the population of Spain – is at high risk of suffering the most from the COVID-19 pandemic. Across the 37 Nigerian States, some bear the highest brunt. More than 4.1 million people in Borno State alone are multidimensionally poor and at high risk, just as in Katsina (4 million) and Kano (3.8 million). At the time of writing, confirmed COVID-19 cases have largely been reported in the southern part of Nigeria and in Abuja. Lagos is hardest hit with almost 100 confirmed cases, followed by the capital region Abuja and the surrounding

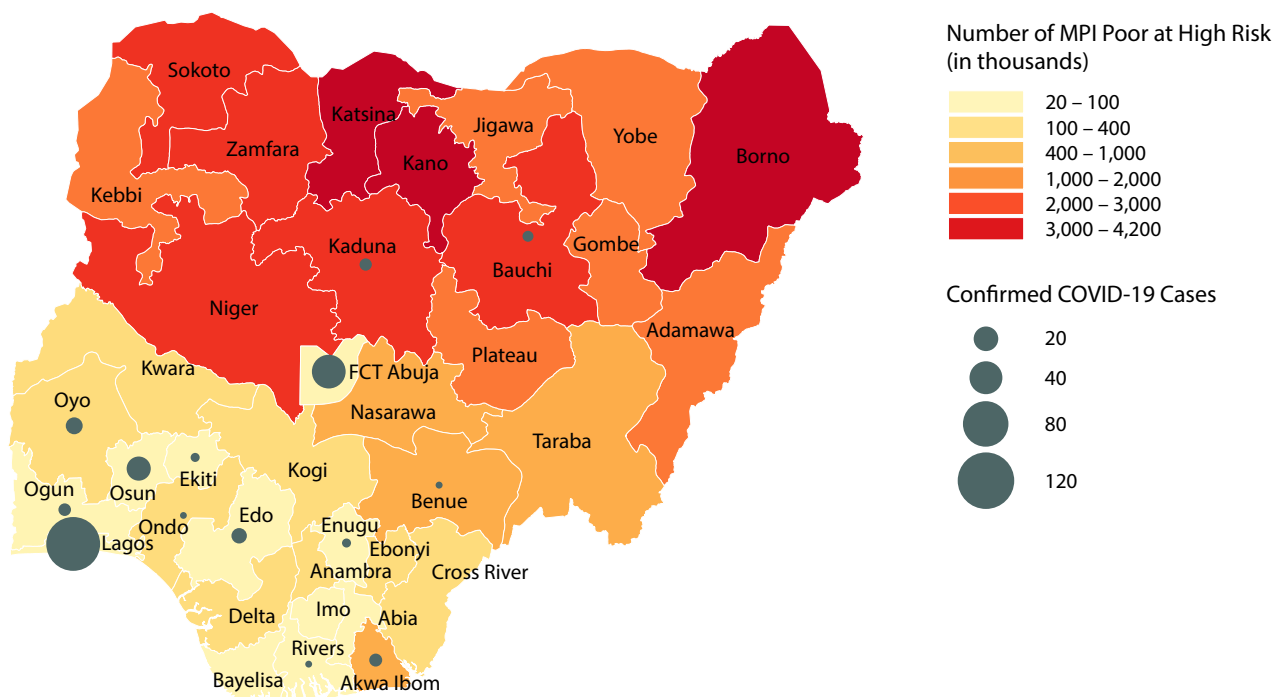
Table 1. MPI and COVID-19 risk across world regions

	Population*	At risk	At high risk	MPI poor and at risk	MPI poor and at high risk	MPI severely poor and at risk	MPI severely poor and at high risk
Arab States	332,469	110,858 33.3%	12,330 3.7%	47,297 14.2%	11,623 3.5%	22,631 6.8%	9,115 2.7%
East Asia and Pacific	2,023,888	1,135,094 56.1%	136,752 6.8%	108,637 5.4%	36,098 1.8%	20,001 1.0%	7,345 0.4%
Europe and Central Asia	108,074	22,973 21.3%	363 0.3%	1,121 1.0%	245 0.2%	89 0.1%	43 0.0%
Latin America and Caribbean	521,133	141,941 27.2%	13,644 2.6%	35,471 6.8%	7,954 1.5%	9,825 1.9%	3,619 0.7%
South Asia	1,766,945	1,305,490 73.9%	90,743 5.1%	540,089 30.6%	83,045 4.7%	198,952 11.3%	38,724 2.2%
Sub-Saharan Africa	995,297	882,120 88.6%	218,219 21.9%	569,926 57.3%	215,564 21.7%	349,405 35.1%	168,721 17.0%
World	5,747,804	3,598,475 62.6%	472,051 8.2%	1,302,540 22.7%	354,529 6.2%	600,904 10.5%	227,567 4.0%

* All population figures are presented in thousands and are based on 2017 UN DESA population estimates.

** Percentages show regional population shares across countries in the global MPI.

Figure 4. Nigerian states: Number of people who are MPI poor and are at high risk from COVID-19 with COVID-19 cases (confirmed infections)



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Sources: COVID-19 data, Nigeria Center for Disease Control (NCDC), 4th April 2020, www.covid19.ncdc.gov.ng.

MPI data computed by Alkire, Kanagaratnam, and Suppa (2019).

states of Ogun, Osun, and Kaduna, respectively. With COVID-19 cases in Abuja and the states of Kaduna and Bauchi, the fear is that the spread of COVID-19 to the poorest states of northern Nigeria is imminent. In Kaduna State, 2.6 million people are at high risk according to the global MPI, while in Abuja 82 thousand people are multidimensionally poor and at high risk from COVID-19.

V. POTENTIAL INFLECTION POINT

This is a crisis that knows no borders. The hope is that, against all odds and in a time of great duress, the COVID-19 response will be a defining inflection point in ending poverty in all its forms – that the sheer scale and devastation of this pandemic will demand bold action on behalf of the most vulnerable. Rapidly, with the great good will across governments, UN agencies, the private sector, NGOs and volunteers, many resources, hands, and minds are battling COVID-19. The global MPI, with its ability to reveal the deprivations of multidimensional poverty and potential COVID-19 risk factors, is one tool that is readily available to be deployed in this fight. Strategic efforts and policies to reduce multidimensional poverty will not only free those who are multidimensionally poor from the burden of simultaneous deprivations but also free them to more effectively resist COVID-19’s assault – which is a victory for everyone.

NOTES

- [1] Suggested citation: Alkire, S., Dirksen, J., Nogales, R., Oldiges, C. (2020). ‘Multidimensional poverty and COVID-19 risk factors: A rapid overview of inter-linked deprivations across 5.7 billion people’, OPHI Briefing 53, Oxford Poverty and Human Development Initiative, University of Oxford.
- [2] For a general overview and the latest information on the COVID-19 pandemic, please refer to the WHO COVID-19 Coronavirus website, [link](#).
- [3] All population aggregates use 2017 data. The data sources and years as well as country briefings, data tables including standard errors, do-files, and an interactive databank are online [here](#). The next update is in July 2020. Data used to compute the global MPI are from 2007–2018, though 5.2 billion of the 5.7 billion people covered and 1.2 billion of the 1.3 billion multidimensionally poor people identified are captured by surveys from 2013 or later.
- [4] This briefing considers vulnerability indicators within the global MPI that are readily available for rapid analysis; see Alkire, Kanagaratnam and Suppa (2019) for a detailed description of the indicator definitions. Many other COVID-19-relevant vulnerability indicators, including sanitation, handwashing facilities, overcrowding, household size, and age, are available from the same household surveys we draw on here. Additional analyses, based on wider sets of indicators, will shortly be available at the OPHI website, [link](#). On COVID-19 vulnerability indicators, see also *The Lancet*, vol. 395, No. 10230, p. 1089, 04 April 2020, [link](#).
- [5] A person is deprived in **water** if they lack safe drinking water within a 30-minute walk from home. They are deprived in nutrition if anyone in their household for whom data exist is undernourished, and in **cooking fuel** if they cook with wood, charcoal, or dung. For details please see Alkire, Kanagaratnam, and Suppa (2019).
- [6] For simplicity, this briefing counts the number of deprivations thus attributing equal weight to each (unlike the global MPI). We do this to show clearly the extent to which deprivations overlap, and the ‘deprivation load’ of the poor.

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