

Multidimensional Child Deprivation in sub-Saharan Africa

MODA In Brief 6

Innocenti Working Paper No. 2014-19

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The MODA methodology has been developed by UNICEF to define and measure child poverty both at a national and international level, taking into consideration the complex, multifaceted realities of poverty children experience at different stages of their lives. CC-MODA is a specific application of the general MODA methodology, designed as a child poverty measure to analyse multidimensional child deprivation in low- and middle-income countries. **This Brief is based on the CC-MODA analysis of multidimensional child deprivation in sub-Saharan Africa (de Milliano and Plavgo, 2014), showing how many children are multidimensionally deprived in the region representing 45 countries.**

Measuring child poverty

MODA distinguishes two main concepts of poverty: monetary poverty and multidimensional deprivation, using both to analyse child poverty when the dataset used for the analysis has information on both.¹ The CC-MODA analysis includes only multidimensional child deprivation as the surveys used for this particular study do not include information on households' income or consumption.² It is, however, possible to compare the results with aggregate monetary poverty rates using other sources. This is further discussed in Brief 7, "Multidimensional Child Deprivation and Monetary Poverty in Sub-Saharan Africa".

Definition of multidimensional child deprivation

Multidimensional child deprivation is defined as the non-fulfilment of children's rights in the main dimensions of survival, development, protection and participation. The child poverty measure focuses on the various age-specific needs of children (rather than those of the household as a whole). For CC-MODA, the dimensions, indicators and thresholds defining deprivation are standardized to be comparable across countries. The choice of the thresholds has been guided by international guidelines and in consultation with sectoral specialists at UNICEF. Figure 1 lists indicators measuring child deprivation in CC-MODA.³ Dimensions differ per age group, as children's needs differ depending on the life-cycle they have reached. The analysis for sub-Saharan Africa is based on five dimensions per child: water, sanitation, nutrition and health for children below the age of five, and education and information for children aged between 5 and 17.⁴

Figure 1 – Life-cycle stages, dimensions and indicators used for the CC-MODA analysis

Age 0-4	Age 5-17
<ul style="list-style-type: none"> 1 Infant and young child feeding 2 Wasting 	<ul style="list-style-type: none"> 1 Compulsory school attendance 2 Primary school attainment
<ul style="list-style-type: none"> 1 DPT immunization 2 Skilled birth attendance 	<ul style="list-style-type: none"> 1 Availability of information devices
<ul style="list-style-type: none"> 1 Access to improved water source 2 Distance to water source 	<ul style="list-style-type: none"> 1 Access to improved water source 2 Distance to water source
<ul style="list-style-type: none"> 1 Access to improved sanitation 	<ul style="list-style-type: none"> 1 Access to improved sanitation
<ul style="list-style-type: none"> 1 Overcrowding 2 Floor and roof material 	<ul style="list-style-type: none"> 1 Overcrowding 2 Floor and roof material
<ul style="list-style-type: none"> 1 Domestic violence 	<ul style="list-style-type: none"> 1 Domestic violence

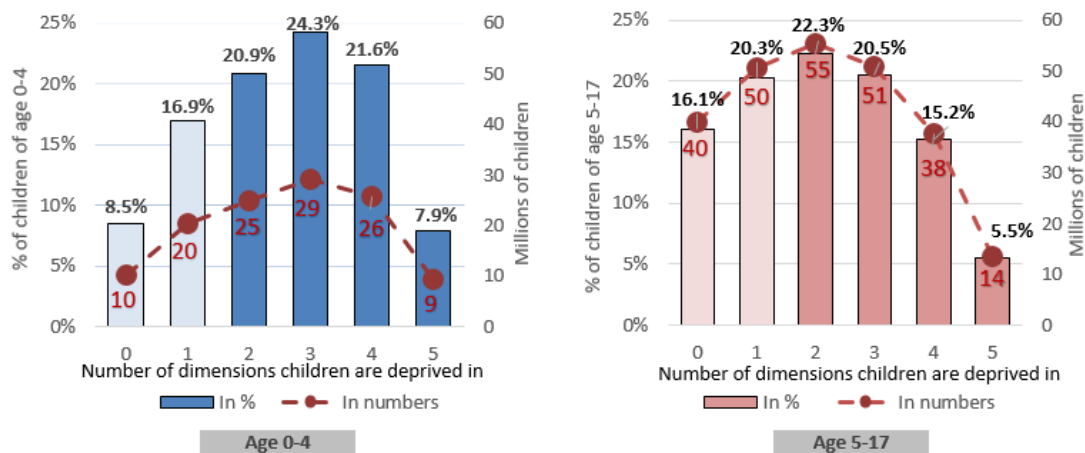
¹ See, for instance, EU-MODA (Chzhen et al, 2014), Mali (de Milliano and Handa, 2014), Madagascar (Plavgo, forthcoming), where monetary child poverty is included in the MODA analysis.

² The CC-MODA analysis is carried out using the most recent DHS and MICS household survey data covering the period 2008-2012.

³ Other choices are made when doing country-specific child poverty analyses. For national child poverty analyses (N-MODA), indicators and thresholds are chosen based on national standards, legislation, and in consultation with the national partners. See de Milliano and Handa (2014) and Plavgo (forthcoming) for examples.

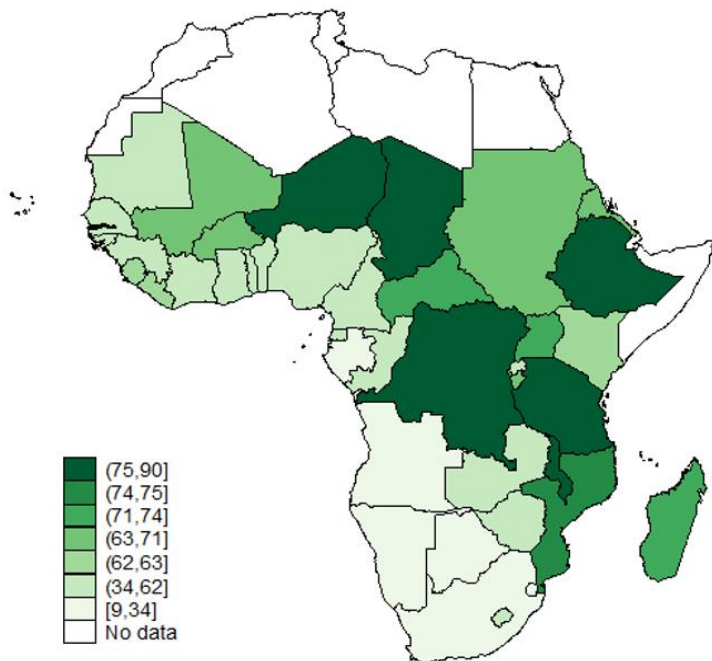
⁴ The 'protection from violence' dimension is excluded from this particular study as the indicators measuring violence are only available for 17 out of 30 countries analyzed. See the web portal <http://www.unicef-irc.org/MODA/> for analyses by country where "protection from violence" is included in the measure when available.

Figure 2: Number of deprivations children suffer from, by age-group



A child is identified as multidimensionally deprived if he or she is deprived in two to five of the aforementioned dimensions, depending on the age. Calculations are done at an individual child level, counting the number of dimensions each child is deprived in. Figure 2 shows the deprivation distribution among children from 30 sub-Saharan African countries,⁵ showing the share and the absolute numbers of children experiencing none, one, two, three, four, and five dimensional deprivations simultaneously.

Figure 3: Percentage of multidimensionally poor children in 45 countries of sub-Saharan Africa



Using these results, the multidimensional child deprivation rates for the remaining 15 countries⁶ have been predicted⁷ to estimate the total number of multidimensionally poor children in the region.

Findings show that **63% of all the children under the age of 18 in sub-Saharan Africa are multidimensionally poor.** In absolute numbers this represents **298 million out of a total of 468 million children across 45 countries in sub-Saharan Africa.** This means that roughly **two out of three children in sub-Saharan Africa have non-fulfilled basic rights in two or more dimensions.**

The results are shown in Figure 3, the darker colours indicating higher multidimensional child deprivation rates. The highest multidimensional child deprivation rates are found in Ethiopia, Chad, Niger, and DR Congo (ranging from 83% to 90% of the total child population) followed by Malawi, Tanzania, Mozambique, and Madagascar (ranging from 74% to 79%). The largest numbers of multidimensionally

deprived children in absolute terms are found in Ethiopia, Nigeria, and DR Congo, which together are home to 118 million multidimensionally deprived children, 40% of the total number of multidimensionally poor children in the region.⁸

⁵ Benin, Burkina Faso, Burundi, Cameroon, Central African Republic, Chad, Comoros, Congo, Côte d'Ivoire, DR Congo, Eq. Guinea, Ethiopia, Gabon, Gambia, Ghana, Guinea, Kenya, Lesotho, Malawi, Mozambique, Niger, Nigeria, Rwanda, Senegal, Sierra Leone, Swaziland, Tanzania, Togo, Uganda, Zimbabwe.

⁶ Angola, Botswana, Cape Verde, Eritrea, Guinea-Bissau, Liberia, Madagascar, Mali, Mauritania, Namibia, São Tomé & Príncipe, South Africa, South Sudan, Sudan, Zambia. The study together represents 45 countries in sub-Saharan Africa as classified by the World Bank, excluding Mauritius, Seychelles, and Somalia.

⁷ The predictions are based on the OLS regression model estimating the relationship between multidimensional child deprivation rates of 28 countries, and the countries' GDP per capita, the share of urban population, and the population size in 2012. The predicted multidimensional deprivation rates are multiplied by the total number of children in each country to estimate the total number of children being multidimensionally deprived. See de Milliano and Plavgo (2014) for details.

⁸ Brief 4 presents a more detailed analysis by country showing the contribution of each country to the overall multidimensional deprivation level in the region. Comparison of the main results with monetary poverty is shown in Brief 7.

SOURCES

MODA web portal:

<http://www.unicef-irc.org/MODA/>

CC-MODA Technical Note:

De Neubourg, C., J. Chai, M. de Milliano, I. Plavgo, Z. Wei (2012). 'Cross-country MODA Study: Multiple Overlapping Deprivation Analysis (MODA) - Technical note', *Innocenti Working Paper* 2012-05, UNICEF Office of Research, Florence. **[EN pdf] [FR pdf]**

CC-MODA results for sub-Saharan Africa:

de Milliano, M. and I. Plavgo (2014). Analysing Child poverty and deprivation in sub-Saharan Africa: CC-MODA – Cross Country Multiple Overlapping Deprivation Analysis, *Innocenti Working Paper* No.2014-19, UNICEF Office of Research, Florence. **[EN pdf]**

MODA guidelines:

De Neubourg, C., J. Chai, M. de Milliano, I. Plavgo, Z. Wei (2012), 'Step-by-Step Guidelines to the Multiple Overlapping Deprivation Analysis (MODA)', *Innocenti Working Paper* 2012-10, UNICEF Office of Research, Florence. **[EN pdf] [FR pdf]**

Background on MODA and multidimensional poverty analysis:

De Neubourg, C., M. de Milliano, I. Plavgo (2014). Lost (in) Dimensions: Consolidating progress in multidimensional poverty research, *Innocenti Working Paper* No. 2014-04, UNICEF Office of Research, Florence. **[EN pdf]**

REFERENCES

Chzhen, Y., C. de Neubourg, I. Plavgo and M. de Milliano (2014). Understanding Child Deprivation in the European Union: The Multiple Overlapping Deprivation Analysis (EU-MODA) Approach, *Innocenti Working Paper* No.2014-18, UNICEF Office of Research, Florence.

De Milliano, M., S. Handa (2014). 'Child Poverty and Deprivation in Mali – the first national estimates', *Innocenti Working Paper* 2014-20, UNICEF Office of Research, Florence.

Plavgo, I., (forthcoming). 'Child Monetary and Multidimensional Poverty Analysis in Madagascar', *Innocenti Working Paper*, UNICEF Office of Research, Florence.

BRIEFS RELATED TO CC-MODA:

- **BRIEF 1: THE BASICS OF THE CROSS-COUNTRY MULTIPLE OVERLAPPING DEPRIVATION ANALYSIS (MODA)**
- **BRIEF 2: DISTRIBUTION OF DEPRIVATIONS AMONG CHILDREN IN SUB-SAHARAN AFRICA**
- **BRIEF 3: OVERLAP ANALYSIS OF DEPRIVATIONS IN SUB-SAHARAN AFRICA**
- **BRIEF 4: CROSS-COUNTRY COMPARISON OF MULTIDIMENSIONAL CHILD DEPRIVATION INCIDENCE AND INTENSITY IN SUB-SAHARAN AFRICA**
- **BRIEF 5: COMPOSITION OF MULTIDIMENSIONAL CHILD DEPRIVATION IN SUB-SAHARAN AFRICA BY DIMENSION**
- **BRIEF 6: MULTIDIMENSIONAL CHILD DEPRIVATION IN SUB-SAHARAN AFRICA**
- **BRIEF 7: MULTIDIMENSIONAL CHILD DEPRIVATION AND MONETARY POVERTY IN SUB-SAHARAN AFRICA**