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SOCIAL POLICY RESEARCH INSTITUTE

Multidimensional Poverty:

One Aim, Three Approaches, Quite a Few Different Results

IARIW-WORLD BANK CONFERENCE: NEW
APPROACHES TO DEFINING AND MEASURING POVERTY
IN A GROWING WORLD

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POVERTY, IN ALL ITS DIMENSIONS

- **idea of poverty as a multidimensional concept – early acceptance, evolutions over time**
- **Numerous empirical applications in the previous decade**
 - Internationally comparable (e.g. Human Development Report)
 - National, specialised
 - Sub-national
- **Shifting understandings and purposes of MD poverty studies**
 - National poverty reduction strategies
 - Policies and programming
 - Millennium Development Goals
 - Sustainable Development Goals

Three approaches to measuring multidimensional poverty

We expand upon three of the most current and relevant approaches to measuring multidimensional poverty

- Consensual deprivation method
- Multidimensional Poverty Index (MPI)
- Multiple Overlapping Deprivation Analysis (MODA)

Perspective of their use as tools for measuring children's poverty and deprivation.

Comparisons on the basis of headcount rate (H%) of children identified as multidimensionally poor, for ease of interpretation and comparability.

Purpose of research

- Provide a state of affairs of the most commonly used and relevant measures for estimating multidimensional poverty - esp. for children
- Disentangle the main drivers of differences in poverty headcount rates among the three measures
- Clear up common misconceptions in the merit of each measure for research, policymaking and programming purposes

→ On the basis of critical review and comparative estimates, explain how these measures lead to varying results, and the implications thereof for research and policymaking.

Approach

1. Systematic comparisons & literature review of the three measurement tools on the basis of their theoretical frameworks and empirical application

- Theoretical underpinnings
- Unit of analysis
- Aggregation and weighting
- Estimations and implications thereof

2. Empirical analyses comparing preliminary estimations of multidimensional deprivation headcount rate (%) of each approach, on the basis of common parameters of analysis/input indicators

Example:
Child Poverty and deprivation in
UGANDA

What % of children are
multidimensionally poor in Uganda?

Consensual method

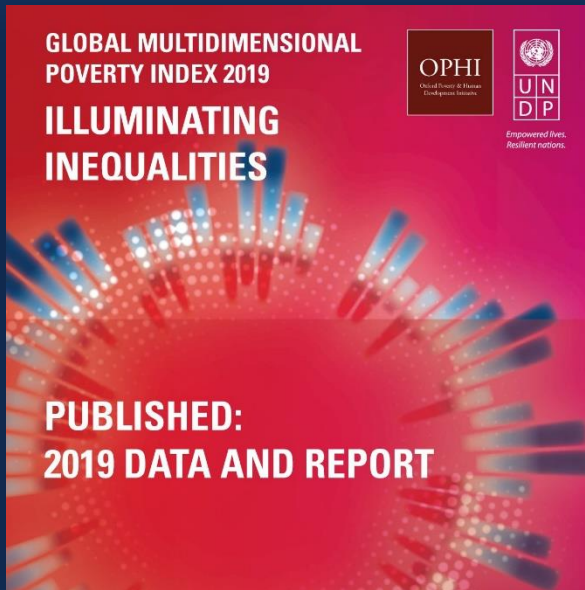


Using the consensual method,
56% of children age 0-17
years are considered
multidimensionally deprived,
experiencing a low standard
of living.

Data: 2016/17 Uganda National
Household Survey (UNHS), 2016
Uganda Demographic and Health
Survey (UDHS)

Source: UNICEF (2019a). Multidimensional Child Poverty and Deprivation In Uganda: The Extent and Nature of Multidimensional Child Poverty and Deprivation. Volume 1 (No. 1). Kampala, Uganda.

Global MPI



According to the Global MPI,
disaggregated by age group,

60% of children age 0-17
years are considered
multidimensionally poor and
living in **multidimensionally poor**
households.

Data: 2016 Uganda Demographic and
Health Survey (UDHS)

Source: Alkire, S., Kanagaratnam, U. and Suppa, N. (2019). 'The Global Multidimensional Poverty Index (MPI) 2019', OPHI MPI Methodological Notes 47, Oxford Poverty and Human Development Initiative, University of Oxford.

“SSA-MODA” approach for Uganda

Using a cross-country, Sub-Saharan Africa MODA approach,

64% of children age 0-17 years are counted as **multidimensionally deprived**, with a threshold of at least 3 dimensions.



Data: 2016 Uganda Demographic and Health Survey (UDHS)

Multidimensional poverty headcount rate (H, %) of children age 0-17 years in Uganda

Measure	<i>k</i>	<i>H</i> (%)
Consensual method (UNICEF, 2019)	33% (6 out of 18 indicators)	56.0%
Global MPI (Alkire, S., Kanagaratnam, U. and Suppa, N. (2019).)	33%	59.7%
SSA-MODA (UNICEF, <i>forthcoming</i>)	≥3 out of 6-7 dimensions	63.9%

**What accounts for these differences
in the multidimensional poverty
headcount rates?**

1. Unit of Analysis

- **Unit of analysis vs. unit of measurement**
- Consensual method: individuals, i.e. children
- MODA: individuals, i.e. children
- Global MPI: individuals living in households
 - Individuals are considered MPI-poor if they live in MPI-poor households

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Child-MPI*	20%	75.8%

* Based on the methodology of C-MPI for Thailand, Bhutan and Rwanda (OPHI, 2017; OPHI, 2019; NISR, 2018)

2. Conceptual Framework

- **Central in the 3 approaches is the concept of deprivation and how they are defined**
- The theoretical underpinnings of each of these measures is different.
- Important implications for the conceptualisation of definition of poverty and deprivation.
- **Different conceptualisations of poverty and deprivation → different approaches to measurement and sourcing of indicators**

2. Conceptual Framework

Consensual Deprivation

- Relative poverty theory (Townsend 1979)
- Basic needs approach (Gordon & Pantazis, 1997)

Multidimensional Poverty Index (MPI)

- Capability approach; basic needs (Alkire, 2007; Sen, 2001; Sen & Foster, 1997)

Multiple Overlapping Deprivation Analysis (MODA)

- Rights-based approach; existing legal convention; life-cycle approach (de Neubourg, Chai, de Milliano, Plavgo et al., 2013; UN General Assembly, 1989, 2015);
- Medium between capability and consensus, esp. in national studies

3. Selection of dimensions and indicators

On the basis of the conceptual framework

- **Consensual method – (UGA: 18 indicators)**
 - Only deprivation indicators representing items and activities deemed to be affordable necessities of life, by a majority of the sampled population, are included
- **MPI (UGA C-MPI: 5 dimensions, 9 indicators)**
 - deprivation indicators defined in terms of essential capabilities and functionings that enable individuals the freedom to live a good life, or one they have reason to value
- **MODA (UGA N-MODA: 6-7 dimensions, 18 indicators)**
 - Deprivation indicators represent unfulfilled children's rights

3. Dimension and indicator selection

Example: Education dimension (child-level)

*Data driven

- **Consensual method – is schooling necessary?**
 - Child considered deprived in an education-related indicator (e.g. **“all school fees, correct uniform, school equipment”**) if the majority of the population sample decides that this indicator is a **necessity of life, and individuals do not have and cannot afford it (34%)**
 - If does not fit criteria, not included
- **MPI* - is child at school?**
 - Single education indicator: Child of school age **does not attend school**, based on global, national MPI and child MPI studies (**14%**)
- **MODA* - is child at school and learning?**
 - Education dimension made up of at least two of several indicators:
 - School-age child does not attend school (**14%** of 6-17Y)
 - Child is beyond primary school age and has not completed primary education (**75%**)
 - Child is two or more years behind in correct grade for age (**48%**)

3. Dimensions, indicators, weights → implicit vs. explicit weighting

Cons	Dimension	Indicator	Threshold	Weight
- im				
CO				
MPI:				
- ex				
di				
de	Living Standards	Housing conditions	lives in a dwelling whose main floor material is earth/sand, wood planks or other material, OR the main roof material is thatch/palm leaf, wood planks or other, OR the main walls material is cane/palm/trunks, bamboo with mud, plywood, reused wood, or other.	1/15
		Cooking fuel	lives in a household where solid fuels are used for cooking and the cooking is done inside the dwelling.	1/15
		Asset ownership	lives in a household that owns less than 1 information device (radio, television, telephone)	1/15

3. Dimensions, indicators, weights → taxonomy and nested structures

More relevant for MPI and MODA

Dimension	Indicator	Deprivation cutoff	Weight
Education (N-MODA with age groups)	School attendance	Child is of school age and not attending school	
	Primary school attainment	Child is beyond primary school age and has not completed school	
ECD	Books & Toys	Child is younger than 3 years and does not have at least 1 book	
	Support for learning	3-4 years and does not do 4 or more of the 7 possible activities with the main caregiver	

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* Based on the methodology of N-MODA for Kenya, Zambia, Ghana, Rwanda, (KNBS & UNICEF, 2017; de Neubourg et al, 2016, 2019, 2017)

C-MPI weights and indicator selection, MODA calculations and vice versa

Simulated various iterations to estimate H%, calculating C-MPI based on indicator selection of a rights-based MODA approach; MODA calculations based on MPI weights and indicators

Confirm: 1) small to no difference with equivalent thresholds set; 2) larger differences when setting higher poverty thresholds, largely due to differences in weighting and dimension structures.

Thresholds

Poverty measures are naturally sensitive to the threshold set
Omitted for simplicity

Conclusions

- **Arithmetic and theoretical differences between the methods exist and are important to understand**
 - However, empirical for evidence in this case study show that these are not large given similar conditions; they all try to capture the same phenomenon
 - In general MD child poverty in UGA is high (at least 2/3)
 - Frameworks are flexible - differences should not be exaggerated and confused for merit – the researcher's CHOICES are more important
- **What is the truth?**
 - Depends on what question is being asked.
 - What is the purpose? Research vs. policy design
- **Usefulness and merit for policy design and programming?**
 - All three methods have been claimed to be useful for policy design – they are differently useful

Future Research / Next steps

- Additional robustness checks, calculation of confidence intervals to determine overlap in distributions and poverty headcount rates of different measures
- Calculation of overlap of children identified by Child-MPI and MODA measures and all their iterations.
- Supplementary tests of sensitivity to inclusion of additional indicators
- Additional countries, where possible



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