

Dynamics of Multidimensional Wellbeing of Children in Ethiopia: Evidence using longitudinal data on children from Young Lives study (2002-2013)

Poverty is commonly measured and reported by looking at the extent to which people are able to acquire goods and services via disposable income. However, in recent years, there has been a growing consensus acknowledging the multidimensional nature of poverty and key advances have been made in its measurement.

The preparation of this report is quite timely in that for the first time, the Sustainable Development Goals (SDG) include a specific goal related to halve the proportion of men, women and children of all ages living in poverty in all its dimensions according to national definitions by 2030 (SDG 1.2).

The work produced for this report can thus be considered as an input for Ethiopian authorities to develop the SDG baseline for this specific goal and serves to build evidence around multidimensional child poverty.

BACKGROUND

In Ethiopia, some of the Millennium Development Goals (MDG) such as hunger and extreme poverty, have been reduced by half. In addition, child-related goals including child school enrolment and infant mortality have substantially improved during the final year of the plan period in Ethiopia. Following the success of achieving most of the MDGs, the country has fully supported the declaration of the SDGs and has contextualized the SDGs into its development program known as the second Growth and Transformation Plan (GTP II). Among the SDGs, three goals (2.2, 3 and 4) are directly related to the wellbeing of children, while several others, such as ending poverty in all of its forms, ending hunger, achieving food security and promoting sustainable agriculture and access to water and sanitation services affect children's wellbeing.

The deprivation measure used in this report follows the core methodology pioneered by UNICEF since 2006, the 'Bristol Method' and recently refined by the UNICEF Office of Research as Multiple Overlapping Deprivation Analysis (MODA).

This study therefore uses MODA to assess trends of children's multidimensional deprivations in Ethiopia and generates evidence on how to monitor and evaluate the progress of Ethiopia towards achieving the SDGs.

DATA AND METHODOLOGY: MODA

MODA uses a range of indicators clustered in the categories of survival, development, protection and participation. Some examples of dimensions used to measure deprivations and measure children's wellbeing are related to nutrition, health, education, water, sanitation, protection, information, shelter, and child participation which asserts that children and young people have the right to freely express their views.

The study uses the longitudinal dataset from a Young Lives study (2002-2013) which allows for a dynamic analysis of the multidimensional wellbeing of children in Ethiopia in addition to containing indicators that capture children's circumstances. The indicators used in the study have been chosen by comparing MODA indicators with those identified by children during focus groups discussions (FGDs) as suitable to measure child poverty in its different dimensions, while also being linked to the ratified Convention of the Rights of the Child (CRC). Similar to MODA, the FGDs identified food, health, housing, clothing, education and lack of physical resources as indicators of poverty. The only difference in the identification of indicators between the two is that while access to information is identified by MODA, children did not mention information as one of the poverty indicators. Box 1 below shows the list of categories in relation to their respective dimensions, indicators and thresholds. MODA uses a union approach for which if a child is deprived in one of the indicators in one dimension, the child is considered deprived in that dimension entirely. A mix of union and intersection approaches has been used to identify deprivation which represents an adaptation of the MODA approach.

BOX 1: Comparing Poverty indicators in MODA and deprivation thresholds

Dimensions	Indicators and Deprivation Thresholds
Age group 0-5	
Nutrition	<i>Underweight</i> : Deprived if children are below two standard deviations from the median of the reference population
	<i>Wasting</i> : Deprived if children are below two standard deviations from the median of the reference population
	<i>Number of meals per day</i> : Deprived if the child has eaten less than three times in a day
	<i>Number of food items consumed per day</i> : Deprived if the child has consumed less than three food items per day
Health	<i>Skilled birth attendant</i> : Deprived if child was not born with a skilled birth attendant
	<i>Measles vaccination</i> : Deprived if child has not taken measles vaccination
	<i>BCG vaccination</i> : Deprived if child has not taken BCG vaccination
Age group 5-17	
Education	<i>School enrolment</i> : Deprived if child is not enrolled in school
	<i>Primary school</i> : Deprived if older than 14 years old but has not finished primary school
Information	<i>Access to information</i> : Deprived if child does not have access to one of these items – radio, television, phone or computer
All age groups	
Shelter	<i>Overcrowding</i> : Deprived if living with more than four household members per room
	<i>Roof and floor material</i> : Deprived if unsustainable roof and floor material such as mud and thatch
Water	<i>Access to improved water source</i> : Deprived if no access to protected water
Sanitation	<i>Access to improved sanitation</i> : Deprived if child does not have access to flush toilets or pit latrine

POVERTY TRENDS IN ETHIOPIA

Using MODA, we find in the Young Lives study sample a decline in children's deprivation in all dimensions. Deprivation in health reduced from 48 per cent in 2002 to 17.1 per cent in 2006, while deprivation in education declined from 23.3 per cent in 2009 to 5.4 per cent in 2013. Access to safe drinking water and sanitation facilities decreased from 53.4 per cent and 62.1 per cent in 2002 to 11.1 per cent and 22.6 per cent in 2009, respectively (see Table 1). The percentage of younger cohort children that are deprived in the shelter dimension fluctuates across the survey rounds. It declines across the first three rounds while it increases by five per cent in round four.

The results in the number of sectors in which the children are deprived, also known as the deprivation count, show that the proportion of children who are not deprived by any of the dimension increased from 1.5 per cent in 2002 to 27 per cent in 2013. Similarly, the proportion of children who are deprived by one dimension increased from 16 per cent in 2002 to 38 per cent in 2013 (see Table 2). On the other hand, the proportion of children who are deprived in two or more dimensions declined.

TABLE 1. Percentage of children deprived by dimension - younger cohort¹

Dimensions	Round 1 2002	Round 2 2006	Round 3 2009	Round 4 2013
Health	48.0	17.1		
Nutrition	0.3	22.1		
Education			23.3	5.4
Information			36.9	25.2
Shelter	73.5	59.8	53.9	58.9
Safe water	53.4	24.1	16.2	11.1
Sanitation	62.1	45.3	27.0	22.6

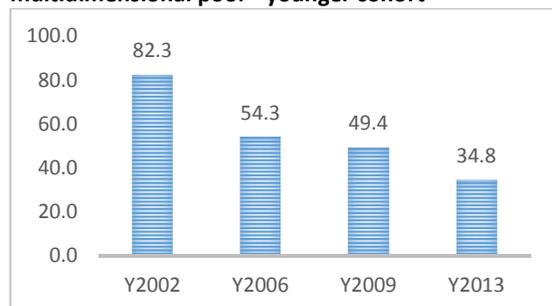
TABLE 2. Percentage trends in number of deprivations - younger cohort

Deprivations Count	Round 1 2002	Round 2 2006	Round 3 2009	Round 4 2013
0	1.5	20.45	24.26	26.91
1	16.17	25.26	26.38	38.39
2	37.44	28.77	25.27	22.32
3	33.43	17.73	16.99	9.82
4	11.41	6.54	6	2.24
5	0.05	1.26	1.11	0.32
Observations	1,998	1,912	1,884	1,873

¹ Age Group 0-5 and 5-17

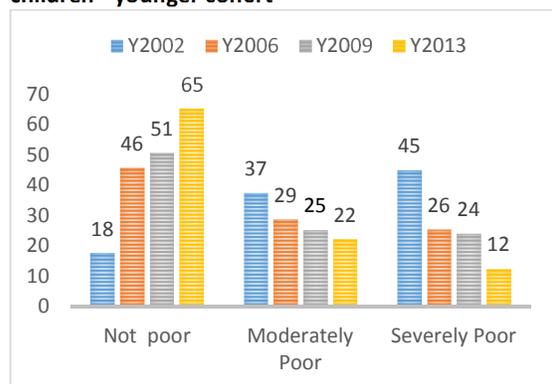
As presented in Figure 1, the proportion of children who are multidimensional poor declined from 82 per cent in 2002 to 35 per cent in 2013, indicating a substantial improvement in children's wellbeing. Based on the number of deprivations, the study categorizes children into 'non-poor', 'moderately poor' and 'severely poor'.

FIGURE 1. Percent of children who are multidimensional poor - younger cohort



While the proportion of children who are not multidimensional 'non-poor' increased over time, the proportion of those 'moderately poor' and 'severely poor' declined over time (see Figure 2). While there is no significant difference between boys and girls, we found an important difference in the status of multidimensional poverty between rural and urban children, with rural children more deprived than urban children.

FIGURE 2. Trends in status of poverty among children - younger cohort



ASSOCIATES OF MULTIDIMENSIONAL POVERTY

The study uses econometric methods and qualitative analysis to identify factors associated with multidimensional poverty. The quantitative analysis indicates a positive association between number of household dependents and children's deprivation: the greater the number of dependents in the households, the more children are multidimensional deprived.

While the presence of working females reduces children's deprivation, the presence of male working age members does not show any significant association with the deprivation of children. The average education of household members was also found to have a statistically significant decreasing effect on children's experience of deprivations. This is most probably due to the fact that households with more human capital endowment have higher earning capacity and, thus, can afford to pay for different goods and services that would prevent children from experiencing the different sources of deprivations. Households' experiences with idiosyncratic socio-economic shocks such as employment loss and death of livestock is positively associated with chronic multidimensional overlapping deprivations.

Tsega, a young girl from Hawassa who lived in poverty explains the impact of family shocks: "Because of my mother's long illness we remained dependent on her uncle. I remember when I was nine, we quarrelled with her uncle and he kicked us out of the house"

DYNAMICS OF MULTIDIMENSIONAL POVERTY

The poverty transition variable has four categories with a base outcome of being *never poor*, and the three alternative outcomes of being in *chronic poverty* (MOD poor in all four rounds), in *transient poverty* (MOD poor in two or three rounds) and MOD poor in just one round.

Among the socio-economic shock variables, the illness of a household member is found to have a statistically significant effect on the probability of being in transient poverty and the probability of chronic poverty. Children who come from a household that has experienced illness of a member are found to have a greater probability of being in transient poverty or chronic poverty than children in a household that has not experienced such a shock. The study adds three more policy variables in the analysis, namely access to credit, size of irrigated land and access to extension. The results of the estimations show that access to credit has a negative effect on the probability of being in transient poverty and the likelihood of falling into the chronic poverty category. However, the size of the effect is very small. The size of land owned by households is also found to have a negative effect on the probability of being in chronic poverty.

Some of the location variables were also found to have statistically significant effects on the probability of being in different statuses of chronic poverty. Children from urban households were found to have a smaller probability of being in either transient or chronic poverty in contrast to their rural

counterparts. The relationship of the location variables with the poverty status indicators resonates with the results found from the estimation of the determinants of the MODA.

The size of land owned by households has a negative effect on the probability of being in chronic poverty. The use of irrigation has negative association with all three type of poverty. However, the study does not find any significant association between chronic poverty and extension services, perhaps because extension services are correlated with access to credit, land size and use of irrigation.

The average education of the household was also found to have a negative effect on the probability of being in chronic poverty among urban children. Similarly, urban children living in male headed households were likely to have a smaller probability of being in chronic poverty when compared to children living in female headed households. Gender seems to play a role and has a relationship with the probability of being in chronic poverty. Boys living in urban areas were found to have a smaller probability of falling into the chronic poverty category than girls.

CONCLUSIONS AND RECOMMENDATIONS

The study benefits by using longitudinal data to capture the dynamics of multidimensional deprivation among children and enables the identification of some determinants of poverty dynamics, which could not be captured through cross-sectional data sets. The findings of the study indicate that MODA and children's perceptions of poverty captured through qualitative methods coincided in many of the indicators except in one dimension, namely, 'information'.

The study also sheds light on the use of a range of policy options to achieve the SDGs of reducing by half the proportion of children of all ages living in poverty in all its dimensions according to national definitions (SDG 1.2). It is important to focus on human capital endowment, particularly education, which is found to reduce children's experience of overlapping deprivations and the persistence of poverty. A long term plan to increase the education endowment of households is expected to contribute to improving children's well-being. In addition, sustainable results can only be achieved through the implementation of a multi-sectoral approach to holistically address child poverty.

Moreover, it is important to note the negative effects of the concentration of household members in the below 17 years age category.

The effects of socio-economic shocks on children's deprivation and poverty transitions also calls for increased access to social protection and insurance schemes to shield children from worsening wellbeing.

Access to credit and promotion of irrigation has to be strengthened to improve the wellbeing of children and thereby achieve the SDG of reducing multiple overlapping deprivations of children. The CRC recommendations coming from progress reports should also be considered as key reference points to identify avenues to boost human development and respect of child rights. Finally, it is important to ensure that child-focused policies and programs consider comprehensive and longitudinal interventions that address the multidimensional and life course nature of child poverty.

This Policy Brief was written by Tassew Woldehanna and Yisak Tafere from the Ethiopian Centre for Child Research. It draws from a study on Dynamics of Multidimensional Poverty among Children in Ethiopia: Evidence using longitudinal data on children from Young Lives study. The brief has been reviewed by Remy Pigois, Vincenzo Vinci and Martha Kibur from UNICEF Ethiopia Social Policy and Evidence for Social Inclusion (SPESI) section

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