

# Comparison of Poverty Measures: Human Poverty Index and Multidimensional Poverty Index

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#### Abstract

Poverty is said to exist when people lack the means to satisfy their basic needs including food, clothing and shelter. Poverty is defined in several ways by various economists, with each approach attempting to best capture deprivation. The simplest way to define poverty is by considering only the income, with the two terms, namely 'Absolute poverty' and 'Relative poverty'. The Human Poverty Index (HPI) was introduced in 1997 and is a composite index which assesses three elements of deprivation in a country i.e., longevity, knowledge and a decent standard of living. Limited utility is main disadvantage of HPI, because it combined average deprivation levels for each dimension and thus could not be linked to any specific group of people. Therefore, since 2010, Oxford Poverty and Human Development Initiative (OPHI) in association with United Nations Development Programme (UNDP) has introduced a new international measure of poverty-the Multidimensional Poverty Index or MPI.

Keywords: Poverty, HPI, MPI, UNDP, OPHI

# Introduction

Poverty, the state of one who lacks a usual or socially acceptable amount of money or material possessions. Poverty is said to exist when people lack the means to satisfy their basic needs including food, clothing and shelter. According to World Bank Organization, "Poverty is hunger. Poverty is lack of shelter. Poverty is being sick and not being able to see a doctor. Poverty is not having access to school and not knowing how to read. Poverty is not having a job, is fear for the future, living one day at a time."

Poverty is defined in several ways by various economists, with each approach attempting to best capture deprivation. The simplest way to define poverty is by considering only the income, those below a specified income threshold are poor (less than \$1.90 per day), which is also termed 'Absolute poverty'. However, poverty doesn't just mean having less money, it also impacts several aspects of life such as social, health, etc.

Further, poverty means different things in different locationsbeing poor in Mumbai is not the same as being poor in London and Dubai. When one tries to define poverty in terms of not benefiting from facilities and services available to others, it is termed 'Relative poverty'. The Human Poverty Index (HPI) was developed as a composite measure of relative poverty, by Mahbub ul Haq, Amartya Sen and others. The Human Poverty Index (HPI) was introduced in 1997 and is a composite index which assesses three elements of deprivation in a country i.e., longevity, knowledge and a decent standard of living. There are two indices-the HPI-1, which measures poverty in developing countries and the HPI-2, which measures poverty in developed economies.

The Human Poverty Index-1 for developing countries has three (3) components: The first element is *longevity*, which is defined as the probability of not surviving to the age of 40. The second element is *knowledge*, which is assessed by looking at the adult literacy rate. The third element is to have a 'decent' standard of living. Failure to achieve this is identified by the percentage of the population not using an improved water source and the percentage of children underweight for their age. As a region of the world, the poorest region is Sub-Saharan Africa, which has the highest level of poverty as a proportion of total population, at over 60%. The second poorest region is Latin America, with 35% of which population living in poverty.

Human Poverty Index-2 for developed countries-the indicators of deprivation are adjusted for advanced economies in the following ways: *Longevity*, which for developed countries is considered as the probability at birth of not surviving to the age of 60. *Knowledge* is assessed in terms of the percentage of adults lacking functional literacy skills, and A *decent standard of living* is measured by the percentage of the population living below the poverty line, which is defined as those below 50% of median household disposable income and social exclusion, which is indicated by the long-term unemployment rate.

Disadvantage of HPI is Limited utility, because it combined average deprivation levels for each dimension and thus could not be linked to any specific group of people. Therefore, since 2010, Oxford Poverty and Human Development Initiative (OPHI) in association with United Nations Development Programme (UNDP) has introduced a new international measure of poverty-the Multidimensional Poverty Index or MPI. The HPI was replaced in 2010 by the Multidimensional Poverty Index or MPI, which directly measures the combination of deprivations that each household experiences. It complements traditional monetary based poverty measures by capturing the acute deprivations that each person faces at the same time with respect to education, health and living standards. It reveals who is poor and how they are poor-the range of different disadvantages they experience because of poverty.

The Multidimensional Poverty Index identifies acute deprivations in health, education and standard of living by

interrogating ten parameters or indicators-nutrition, child mortality, years of schooling, school attendance, access to cooking fuel, sanitation, drinking water, electricity, and housing, ownership of assets.

Multidimensional Poverty Index (MPI) assesses poverty at the individual level. If someone is deprived in a third or more of ten (weighted) indicators, the global index identifies them as 'MPI poor', and the extent or intensity of their poverty is measured by the percentage of deprivations they are experiencing. It complements traditional monetary poverty measures by capturing the acute deprivations in health, education, and living standards that a person faces simultaneously. A person is *multidimensionally poor* if she/he is deprived in one third or more (means 33% or more) of the weighted indicators (out of the ten indicators). Those who are deprived in one half or more of the weighted indicators are considered living in *extreme multidimensional poverty*.

Table 1: Global MPI: Dimensions and Ten Indicators of Poverty

Dimensions of Poverty	Indicator	Deprived if Living in a Household Where	Weight	SDG Area
Health (1/3)	Nutrition	Any person under 70 years of age for whom there is nutritional information is undernourished.	1/6	SDG 2: Zero Hunger
	Child mortality	A child under 18 has died in the household in the five-year period preceding the survey.	1/6	SDG 3: Health and Well-being
Education (1/3)	Years of schooling	No eligible household member has completed six years of schooling.	1/6	SDG 4: Quality Education
	School attendance	Any school-aged child is not attending school up to the age at which he/she would complete class 8.	1/6	SDG 4: Quality Education
Living Standards (1/3)	Cooking fuel	A household cooks using solid fuel, such as dung, agricultural crop, shrubs, wood, charcoal, or coal.	1/18	SDG 7: Affordable and Clean Energy
	Sanitation	The household has unimproved or no sanitation facility or it is improved but shared with other households.	1/18	SDG 6: Clean Water and Sanitation
	Drinking water	The household's source of drinking water is not safe or safe drinking water is a 30-minute or longer walk from home, roundtrip.	1/18	SDG 6: Clean Water and Sanitation
	Electricity	The household has no electricity.	1/18	SDG 7: Affordable and Clean Energy
	Housing	The household has inadequate housing materials in any of the three components: floor, roof, or walls.	1/18	SDG 11: Sustainable Cities and Communities
	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.	1/18	SDG 1: No Poverty

Source: Alkire, S., Kanagaratnam, U. and Suppa, N. (2020) [1]. 'The global Multidimensional Poverty Index (MPI): 2020 revision', OPHI MPI Methodological Note 49, Oxford Poverty and Human Development Initiative, University of Oxford.

Thus, from the figure above, the relative weights of the dimensions are: Health (1/3), Education (1/3), Standard of Living (1/3). There are two indicators each for health and education. Therefore, each indicator contributes 1/2 of 1/3 or 1/6 of the total weight for the corresponding dimension. Standard of living has six indicators, each contributing 1/6 of 1/3 or 1/18 of the total weight for the dimension. The Global MPI can be used to create a comprehensive picture of people living in poverty, and permits comparisons both across countries and world regions, and within countries by ethnic group, urban and rural area, subnational region, and age group, as well as other key household and community characteristics. For each group and for countries as a whole, the composition of MPI by each of the 10 indicators shows

how people are poor. The MPI assesses poverty at the individual level. If a person is deprived in a third or more of ten (weighted) indicators, the global MPI identifies them as 'MPI poor'. The extent or intensity of their poverty is also measured through the percentage of deprivations they are experiencing.

National Multidimensional Poverty Index (NMPI): Global MPI's National counterpart is released by the NITI Aayog, namely National Multidimensional Poverty Index (NMPI). The National MPI is India's equivalent of the Global Multidimensional Poverty Index developed by the NITI Aayog. It uses the robust procedures followed by the Oxford Poverty and Human Development Initiative and the UNDP to determine the multidimensionality of poverty among the

Indian masses. This MPI report is based on a base report of NFHS (National Family Health Survey) and it has considered the period between 2015 to 2016 for its findings. It was released on 26th of November 2021. Through the first MPI of India we can now easily get some approximation at district level which would be much more efficient in comparison at the country level and it is calculated through *Twelve (12) indicators-nutrition, child and adolescent mortality, years of schooling, school attendance, access to cooking fuel, sanitation, drinking water, electricity, and housing, ownership of assets and bank account.* 

This makes the MPI and its linked information platform invaluable as an analytical tool to identify the most vulnerable people-the poorest among the poor, revealing poverty patterns within countries and over time, enabling policy makers to target resources and design policies more effectively.

## Conclusion

The Human Poverty Index was replaced with measurement MPI since 2010, because HPI combined average deprivation levels for each dimension and thus could not be linked to any specific group of people, whereas MPI directly measures the combination of deprivations that each household experiences. It complements traditional monetary-based poverty measures by capturing the acute deprivations that each person faces at the same time with respect to three dimensions of poverty I, e., education, health and living standards. Therefore, MPI is considered as best measurement of poverty, which also helpful in reviewing the consequences of various poverty alleviation programme initiated by the governments in order to reduce poverty.

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