

Multi Dimensional Poverty: Challenges in Making Cross Country and Temporal Comparison

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What is new and Great about MPI?

- Multi dimensional indices used by psychologists, sociologists, geographers, regional planners since early twentieth century.
- Used statistical tools like Principal Component Analysis to generate weights from data configuration to rank and compare individuals, regions and communities
- Economists were constrained by Arrow who warned that composite ranking violates basic logical axioms
- Sen and Haque broke the barriers who argued that theoretical purity restrain social scientists going into policy domain and advocated HDI as a tool of programmatic intervention

Global Multidimensional Poverty

Dimension	Indicator	A Household is Considered Deprived If	Weight (W)
Health (1/3)	Nutrition	Any child between the ages of 0 to 59 months, or woman between the ages of 15 to 49 years, or man between the ages of 15 to 54 years -for whom nutritional information is available - is found to be undernourished.	1/6
	Child-Adolescent Mortality	A child/adolescent under 18 years of age has died in the family in the five-year period preceding the survey.	1/12
	Maternal Health	Any woman in the household who has given birth in the 5 years preceding the survey, has not received at least 4 antenatal care visits for the most recent birth or has not received assistance from trained skilled medical personnel during the most recent childbirth.	1/12
Education (1/3)	Years of Schooling	Not even one member of the household aged 10 years or older has completed six years of schooling.	1/6
	School Attendance	Any school-aged child is not attending school up to the age at which he/she would complete class 8.	1/6
Standard of Living (1/3)	Cooking Fuel	A household cooks with dung, agricultural crops, shrubs, wood, charcoal or coal.	1/21
	Sanitation	The household has unimproved or no sanitation facility or it is improved but shared with other households.	1/21
	Drinking Water	The household does not have access to improved drinking water or safe drinking water is at least a 30-minute walk from home (as a round trip).	1/21
	Electricity	The household has no electricity.	1/21
	Housing	The household has inadequate housing: the floor is made of natural materials, or the roof or wall are made of rudimentary materials.	1/21
	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.	1/21
	Bank Account	No household member has a bank account or a post office account.	1/21

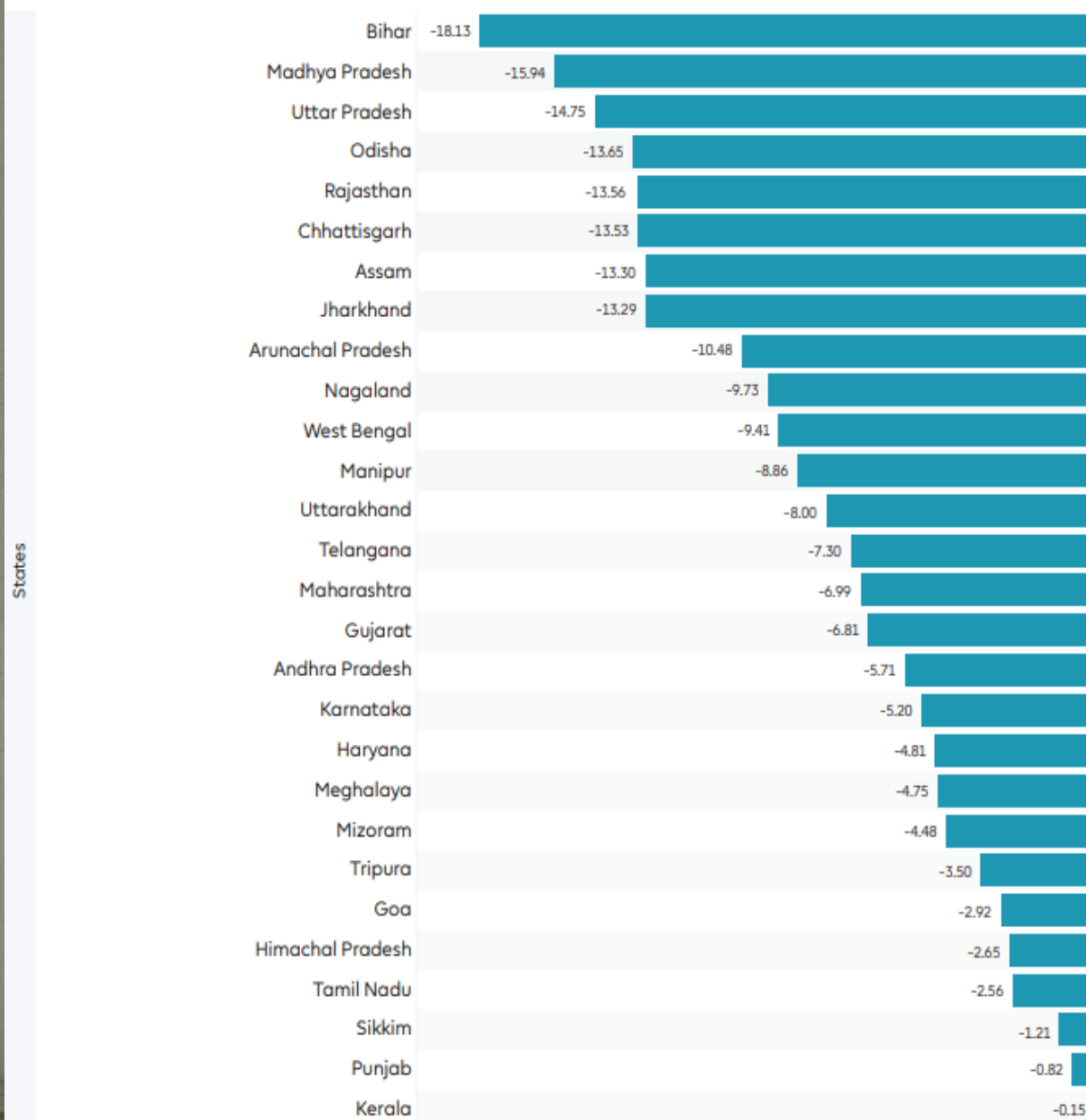
Snapshot of Multidimensional Poverty in India

Year	Headcount Ratio (H)	Intensity of Poverty (A)	MPI (H x A)
2019-21	14.96%	44.39%	0.066
2015-16	24.85%	47.14%	0.117

Year	Rural			Urban		
	MPI	Headcount Ratio (H)	Intensity of Poverty (A)	MPI	Headcount Ratio (H)	Intensity of Poverty (A)
2019-21	0.086	19.28%	44.55%	0.023	5.27%	43.10%
2015-16	0.154	32.59%	47.38%	0.039	8.65%	45.27%

India : Changes over time for Headcount Ratio

State/ UT wise percentage point change in the headcount ratio between 2015-16 and 2019-21



What is new and Great about MPI?

- MPI is based on individual and household data and not average education, schools, hospitals road milage etc. If one HH in the country is lifted out of poverty, MPI value will go down. Further, if the deprivation of a HH is reduced, MPI goes down.
- MPI is decomposable. We know the contribution of each indicator, region and social group
- The ten indicators have no theoretical or empirical sanctity. It is conceived within HDI framework - its indicators and weightges. Less scope for vested interests. Modification and addition of indicators, data sources. Indicators of Banking or FGM Each country must have institutional structure to protect the methodology from tampering for short term political gains

DONT THROW THE BABY AWAY WITH THE BATHWATER

UNLESS THE BABY HAS GENETIC DEFECTS OR LACKS IN CAPACITY TO DEAL WITH THE EMERGING WORLD

- Weights are exogenously determined unlike the statistical models wherein these emerge from the data based on correlation, coefficients of variation etc. Issues of temporal comparison.
- MPI violates axiom of redistribution. Sen's poverty index is based on Gini. Here two persons below Poverty Line by Rs 50 implies less poverty than one person deficient by Rs 100. A school or hospital needs to be located in a region which has a higher level of MPI. Only Adjusted Squared Poverty Gap (M_2) satisfies the axiom

Challenges in Using MPI at Global Level

- Demographic transition with no change in physical or economic conditions will decrease MPI. When a family has no school going child or below 18 years there will be no education or child death deprivation. In Indian case this applies to child delivery in last five years. These households will be counted as non poor.
- Perverse result: The school attendance rate may go down child death rate may go up, MPI can still decline if these HHs are considered non poor. Must compute poverty based on 33 per cent of the indicators for which data are available

MPI in 2015–16, 2019–21 and change for Indian States

State / UT	MPI (2015–16)	MPI (2019–21)	Reduction (2015–16 – 2019–21)
Andhra Pradesh	0.051	0.025	0.026
Arunachal Pradesh	0.115	0.059	0.056
Assam	0.156	0.086	0.070
Bihar	0.265	0.160	0.105
Chhattisgarh	0.133	0.070	0.063
Goa	0.015	0.003	0.012
Gujarat	0.083	0.050	0.033
Haryana	0.053	0.031	0.022
Himachal Pradesh	0.030	0.020	0.010
Jharkhand	0.202	0.131	0.071
Karnataka	0.055	0.031	0.024
Kerala	0.003	0.002	0.001
Madhya Pradesh	0.173	0.090	0.083
Maharashtra	0.065	0.033	0.032
Manipur	0.076	0.034	0.042
Meghalaya	0.156	0.133	0.023
Mizoram	0.046	0.024	0.022
Nagaland	0.116	0.066	0.050
Odisha	0.136	0.070	0.066
Punjab	0.024	0.020	0.004
Rajasthan	0.137	0.065	0.072
Sikkim	0.016	0.011	0.005
Tamil Nadu	0.019	0.009	0.010
Telangana	0.057	0.024	0.033
Tripura	0.075	0.056	0.019
Uttar Pradesh	0.179	0.103	0.076
Uttarakhand	0.078	0.041	0.037
West Bengal	0.097	0.050	0.047

MPI in 2015–16, 2019–21 and change for Union Territories

Andaman & Nicobar Is.	0.017	0.009	0.008
Chandigarh	0.026	0.017	0.009
Dadra & Nagar Haveli & Daman & Diu	0.087	0.039	0.048
Delhi	0.020	0.014	0.006
Jammu & Kashmir	0.055	0.020	0.035
Ladakh	0.051	0.015	0.036
Lakshadweep	0.007	0.004	0.003
Puducherry	0.007	0.003	0.004

MPI is the product of headcount (H) and intensity (A); the Rajya Sabha annexure also shows H and A