



MULTIDIMENSIONAL POVERTY IN INDIA : AN ANALYSIS OF ITS TRENDS, PATTERNS

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ABSTRACT:-

Poverty is a multidimensional aspect which affects the people worldwide. Traditionally household income or consumption expenditure has been used to measure poverty. But it fails to capture multiple deprivations faced by individuals. Monetary deprivation cannot be proxy for other deprivations that are responsible for poverty. Thus deprivations like health, education nutrition and other indicators are required to measure poverty (Jagadeswaran, 2022). Thus MPI is used as comprehensive and more direct method to measure poverty and deprivation. The results of economic growth and development, income and its distribution, and numerous State development programs are captured and made public by MPI. Furthermore MPI is now globally acknowledged complement monetary measure to capture various dimensions of poverty.



KEY WORDS: multidimensional aspect , measure poverty , globally acknowledged.

INTRODUCTION :

The Oxford Poverty and Human development Initiatives (OPHI) and United Nations Development Programs (UNDP) jointly developed MPI in 2010. The global Multidimensional Poverty Index (MPI) is based on the of Alkire and Foster (AF) methodology that identifies people as poor or not poor based on a dual-cutoff counting method. Global MPI uses ten indicators covering three areas namely health, education and standard of living. Health dimension includes Nutrition and Child & Adolescent Mortality indicators, education dimension includes Years of Schooling and School Attendance indicators and standard of living dimension includes 6 household specific indicators namely, housing, household assets, type of Cooking Fuel, access to Sanitation, Drinking water and Electricity (GoI 2023).

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 MPI is computed by multiplying the incidence of multidimensional poverty (H) and the intensity of poverty (A), denoted as $MPI = H \times A$. Incidence (H) shows the percentage of people who are multidimensionally poor, and Intensity (A) shows the percentage of weighted deprivations the average multidimensionally poor person suffers from. The national MPI retains all the ten indicators from the global MPI and incorporates two additional indicators, Maternal Health and Bank Accounts, in line with India's national priorities (GoI, 2023).

National Family Health Survey (NFHS) rounds (3 to 5) were used to estimate multidimensional poverty for India in the years 2005–06, 2015–16, and 2019–21. The estimates are calculated taking into account how the indicators are harmonized throughout the previously mentioned survey iterations. India ranked 66 out of 109 countries according to the Global MPI. According to 2023 MPI report MPI value of the India nearly halved and the proportion of population in multidimensional poverty from **24.85% to 14.96%** between 2015-16 and 2019-21. According to the NITI Aayog’s Report ‘National Multidimensional Poverty Index: A Progress Review 2023’ A record 13.5 crore people moved out of multidimensional poverty between 2015-16 and 2019-21 (GoI, 2023).

1.1: Multidimensional Poverty All-India Level

Table 5.1 provides incidence and intensity of the poverty along with MPI values for 3 set of years. MPI for India for the years 2005-06, 2015-16, and 2019-21, was estimated using data from the corresponding National Family Health Survey (NFHS) rounds. In 2005–06, more than half of the India’s population (55.34%) was multidimensionally poor, with a corresponding 54.96 % intensity of poverty. The percentage of multidimensionally poor people in the total population decreased from 55.34% in 2005–06 to 24.85% in 2015–16 and 14.96% in 2019–21. These estimates indicate that India has significantly reduced the proportion of multidimensionally poor people by 40.38 percentage points over roughly 15 years since 2005-06. Additionally, the Intensity of Poverty, which measures the average deprivation score among the multidimensionally poor, decreased by 10.57 percentage points from 54.96% in 2005-06 to 47.14% in 2015-16, and further to 44.39% in 2019-21. This suggests a declining extent of deprivation among the impoverished population. Consequently, the Multidimensional Poverty Index (MPI), which combines the headcount ratio and the extent of deprivation, improved significantly, dropping from 0.304 to 0.117 in the decade following 2005-06, and further to 0.066 in the subsequent 4.5 years up to 2019-21.

MPI reduction in India differs between rural and urban areas due to disparities in level of population, extent of poverty, resources availability, opportunities and infrastructure.. In rural areas multidimensionally poor decreased to 19.28% in 2019-21 from 32.59% in 2015 and in urban area it reduced from 8.65% to 5.27%. Intensity of poverty reduced to 44.5% in 2019-21 from 47.38% in 2015-16 in rural area whereas in urban area in reduced to 43.10% in 2019-21 from 45.27% in 2015. Percentage of multidimensionally poor and intensity of poverty was higher in rural areas in 2015 and 2019 due to limited access to health care, quality education, economic opportunities along with inadequate social services and infrastructure. The rural areas witnessed the fastest decline in poverty. MPI improved significantly in both rural and urban areas dropping from 0.154 to 0.086 in rural areas and 0.039% to 0.023 in the urban areas. The MPI value is lower in urban areas and higher in rural areas due to better access to education, healthcare, and infrastructure in cities, which reduces the extent of deprivation. Urban areas also benefit from more robust economic opportunities and social services, contributing to lower multidimensional poverty. Conversely, rural areas face persistent barriers that exacerbate deprivation, leading to higher MPI values.

Table 1.1
Trends in Multidimensional Poverty Index in India: 2005-06 to 2019-21(%)

Year	Rural			Urban			All		
	HCR	Intensity	MPI	HCR	Intensity	MPI	HCR	Intensity	MPI
2005-06	NA	NA	NA	NA	NA	NA	55.34	54.96	0.304
2015-16	32.59	47.38	0.154	8.65	45.27	0.039	24.85	47.14	0.117
2019-21	19.28	44.55	0.086	5.27	43.10	0.023	14.96	44.39	0.066

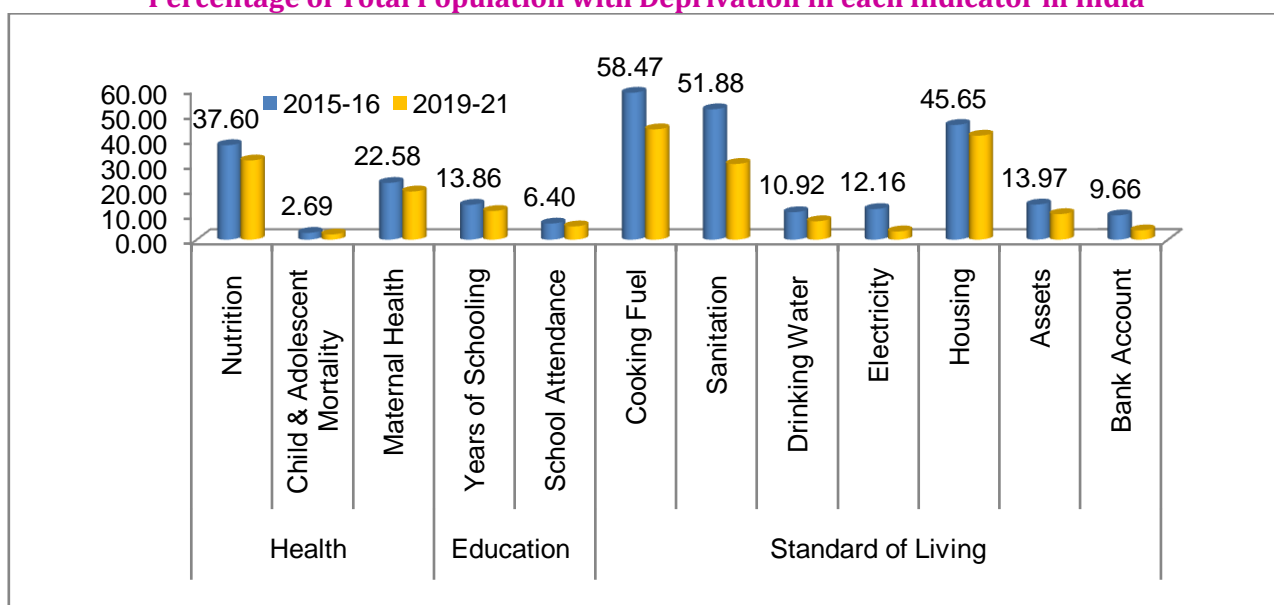
Note: HCR: Headcount Ratio; MPI: Multidimensional Poverty Index

Source: NITI Aayog.

1.2. Deprivations by Key Indicators

The comparison of the two NFHS surveys' indicator-wise performance helps us to analyze the decline in deprivation across various domains. Using the National MPI methodology, the broad trend of the headcount ratio for the 12 indicators across three survey years was examined. Figure 5.1 recapitulates the progress in removing deprivation of India's population. Deprivation percentages reduced across all indicators between 2015 and 2019. Among all indicators, the standard of living was noticed highest level of deprivation in both years. Within the standard of living dimension, highest levels of deprivation in 2015-16 were found in indicators such as Cooking Fuel (58.47%), Sanitation (51.88%), and housing (45.65%). On the other hand, Child & Adolescent Mortality (2.69%), School Attendance (6.40%), and bank account (9.67%) had the lowest levels of deprivation in 2005-06. By 2019, cooking fuel still had the highest deprivation at followed by housing. The lowest deprivation continued to be in child and adolescent mortality, maintaining nearly 0%.

Figure 1.1
Percentage of Total Population with Deprivation in each Indicator in India



Source: NITI Aayog.

The Government's dedicated focus on improving access to sanitation, nutrition, cooking fuel, financial inclusion, drinking water, and electricity has led to significant advancements in these areas. All 12 parameters of the MPI have shown marked improvements. Flagship programmes like the Poshan Abhiyan and Anaemia Mukta Bharat have contributed to reduced deprivations in health. Initiatives such as Swachh Bharat Mission (SBM) and Jal Jeevan Mission (JJM) have improved sanitation across the country. The impact of these efforts is evident in the swift 21.8 percentage points improvement in sanitation deprivations. The provision of subsidized cooking fuel through the Pradhan Mantri Ujjwala Yojana (PMUY) has positively transformed lives, with a 14.6 percentage points improvement in cooking fuel deprivations. Initiatives like Saubhagya, Pradhan Mantri Awas Yojana (PMAY), Pradhan Mantri Jan Dhan Yojana (PMJDY), and Samagra Shiksha have also played a major role in significantly reducing multidimensional poverty in the country. The remarkable progress achieved through extremely low deprivation rates especially for electricity, access to bank accounts and drinking water, reflects the Government's unwavering commitment to improving citizens' lives and creating a brighter future for all. Consistent implementation across a diverse set of programmes and initiatives that have strong inter-linkages has led to significant reduction in deprivations across multiple indicators (GOI 2023).

1.3. REGIONAL PATTERN OF MPI

All states or regions experience poverty in the same way, it is imperative to analyze the geographical pattern of the Multidimensional Poverty Index (MPI). All states or regions do not experience poverty in the same way, it is imperative to analyze the geographical pattern of the Multidimensional Poverty Index (MPI). Regional analysis facilitates the identification of notable discrepancies that may be hidden by national averages, allowing for focused solutions that are adapted to the particular difficulties faced by various regions. By giving priority to areas with higher rates of poverty, this guarantees more equal resource allocation and more effective poverty alleviation. Additionally, it guarantees that all regions profit from national development initiatives, encourages inclusive growth, and supports evidence-based policymaking, all of which contribute to a more comprehensive and balanced strategy for reducing poverty.

Table 5.2 presents data on the Multidimensional Poverty Index (MPI) for 30 major Indian states. States are arranged in ascending order of their HDI rankings of 2022. The highest headcount ratio (HCR) in 2015–16 was 51.89% in Bihar, followed by 42.10% in Jharkhand and 37.68% in Uttar Pradesh. Kerala has the lowest HCR, at 0.70%, followed by Sikkim at 3.82% and Goa at 3.76%. In terms of poverty intensity in 2015–16, Kerala had the lowest intensity at 38.99%, followed by Himachal Pradesh at 39.44% and Tamil Nadu at 39.97%. Bihar led with highest of 51.01%, followed by Jharkhand at 47.92% Uttar Pradesh at 47.60%. The lowest HDI ranked state Bihar had highest MPI due to its Highest HCR and intensity of poverty. Kerala with its highest HDI rank had the lowest MPI.

In 2019-21, Bihar still had the highest HCR at 33.76%, followed by Jharkhand and Uttar Pradesh. Kerala maintained the lowest HCR at 0.55%, followed by Goa at 0.84% and Tamil Nadu. The intensity of poverty remained highest in Bihar at 47.40% followed Jharkhand and Uttar Pradesh. Kerala had the lowest intensity at 36.92%, followed by Goa and Tamil Nadu. The MPI in 2019-21 was highest in Bihar at 0.160, followed by Jharkhand and UP, while the lowest MPI was again in Kerala at 0.002, followed by Goa at 0.003 and Sikkim at 0.011.

At the national level the headcount ratio (HCR) dropped significantly from 24.85% in 2015–16 to 14.96% in 2019–21, indicating a decline in the proportion of individuals living in multidimensional poverty. During the same time period, the average deprivation score among the poor, or the intensity of poverty, decreased from 47.14% to 44.39%. As a result, India's MPI value decreased from 0.117 in 2015–16 to 0.066 in 2019–21.

Table 1.2

Multidimensional Poverty Index by Major States Ranked by Ascending Order of HDI in India (%)

States ranked by ascending order of HDI (2022)	2015-16			2019-21			Change in HCR in 2019=21 over 2015-16
	HCR	Intensity	MPI	HCR	Intensity	MPI	
Kerala	0.70	38.99	0.003	0.55	36.92	0.002	-0.15
Goa	3.76	40.13	0.015	0.84	38.69	0.003	-2.92
Chandigarh	5.97	43.39	0.026	3.52	47.41	0.017	-2.45
HP	7.59	39.44	0.030	4.93	40.22	0.020	-2.66
Sikkim	3.82	41.20	0.016	2.60	41.02	0.011	-1.22
J & K	12.56	44.17	0.055	4.80	42.11	0.020	-7.76
Punjab	5.57	43.74	0.024	4.75	41.22	0.020	-0.82
Haryana	11.88	44.40	0.053	7.07	43.34	0.031	-4.81
Maharashtra	14.80	43.76	0.065	7.81	41.77	0.033	-6.99
Mizoram	9.78	47.42	0.046	5.30	45.62	0.024	-4.48
Tamil Nadu	4.76	39.97	0.019	2.20	38.70	0.009	-2.56
Manipur	16.96	44.61	0.076	8.10	41.91	0.034	-8.86

Uttarakhand	17.67	44.35	0.078	9.67	41.99	0.041	-8.00
Nagaland	25.16	46.29	0.116	15.43	42.61	0.066	-9.73
Karnataka	12.77	42.76	0.055	7.58	41.21	0.031	-5.19
Ar.P	24.23	47.25	0.115	13.76	43.04	0.059	-10.47
Telangana	13.18	43.29	0.057	5.88	40.85	0.024	-7.30
Meghalaya	32.54	48.08	0.156	27.79	48.01	0.133	-4.75
Rajasthan	28.86	47.34	0.137	15.31	42.70	0.065	-13.55
Gujarat	18.47	44.97	0.083	11.66	43.25	0.050	-6.81
AP	11.77	43.28	0.051	6.06	41.12	0.025	-5.71
Tripura	16.62	45.03	0.075	13.11	42.68	0.056	-3.51
WB	21.29	45.50	0.097	11.89	42.35	0.050	-9.40
Chhattisgarh	29.90	44.64	0.133	16.37	42.61	0.070	-13.53
Assam	32.65	47.88	0.156	19.35	44.41	0.086	-13.30
Odisha	29.34	46.42	0.136	15.68	44.50	0.070	-13.66
MP	36.57	47.25	0.173	20.63	43.70	0.090	-15.94
UP	37.68	47.60	0.179	22.93	44.83	0.103	-14.75
Jharkhand	42.10	47.92	0.202	28.81	45.59	0.131	-13.29
Bihar	51.89	51.01	0.265	33.76	47.40	0.160	-18.13
All India	24.85	47.14	0.117	14.96	44.39	0.066	-9.89

Source: NITI Aayog.

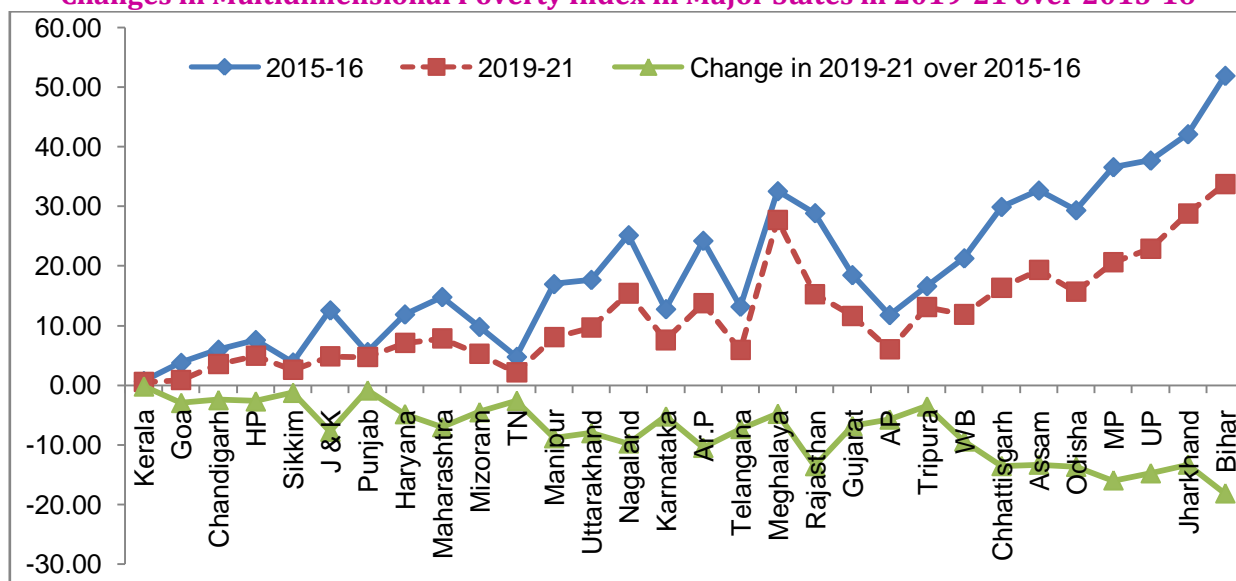
The highest decrease in the Head Count Ratio (HCR) of the Multidimensional Poverty Index (MPI) in Bihar, with a reduction of 18.13 points, indicates that Bihar saw the greatest absolute reduction in poverty levels among the states. Despite having a high HCR in both years, this significant drop suggests that the measures taken were particularly effective in reducing poverty in Bihar. This highlights a major improvement in poverty alleviation efforts, although Bihar still ranks poorly in terms of MPI and HDI, reflecting ongoing challenges in overall development. Kerala, which experienced the smallest reduction of just 0.15 points in the Head Count Ratio (HCR) of the Multidimensional Poverty Index (MPI), had the highest Human Development Index (HDI) and the lowest MPI among the states. The HCR in Kerala was already low in both years, so even a small reduction in HCR is relatively minor. This indicates that Kerala's stable HCR is a reflection of its strong human development outcomes and already low levels of multidimensional poverty, contrasting with states like Bihar, where the greater absolute reduction in HCR indicates significant improvements from higher initial poverty levels.

The information emphasizes how crucial regional analysis is to successfully modifying interventions. Kerala and Goa, two states with higher HDI rankings, have better access to resources and services, which contributes to their lower multidimensional poverty. On the other hand, states like Bihar and Uttar Pradesh that have lower HDI rankings need to implement specific strategies to deal with their unique deprivation problems, especially when it comes to living conditions, health, and education. More inclusive and balanced growth is ensured nationwide by this all-encompassing strategy.

Figure 5.2. presents the head count ratio of the Multidimensional Poverty Index for various Indian states and union territories over two periods: 2015-16 and 2019-21, with changes depicted between these periods. The HCR for 2015-16 is illustrated by a blue line with diamond markers, indicating the poverty levels during that period. The HCR for 2019-21 is represented by a red dashed line with square markers, showing the updated poverty levels. The change in HCR from 2015-16 to 2019-21 is depicted by a green line with triangle markers, highlighting the improvement or deterioration in poverty levels. 2019 trend line below 2015 trend line depicts decline in MPI in all states. Negative green line explains the reduction in 2019 over 2015 MPI. Overall, the data reveals a varied

picture of poverty reduction across different regions, underscoring the need for tailored policy interventions to address specific challenges.

Figure 1.2
Changes in Multidimensional Poverty Index in Major States in 2019-21 over 2015-16



Source: NITI Aayog.

CORRELATES OF MIP IN INDIA

The correlation results presented in Table 5.15 examine the relationship between the Multidimensional Poverty Index (MPI) and several influencing variables, including both monetary and non-monetary factors. The monetary variable considered is the Gross State Domestic Product (GSDP) at constant prices in lakh rupees, while the non-monetary variables include the Infant Mortality Rate (IMR) per thousand live births, Maternal Mortality Rate (MMR) per one lakh live births, Literacy Rate (LR) in percentage, Human Development Index (HDI) value of the states, and Workforce Participation Rate (WPR) in percentage.

The analysis reveals that MPI and GSDP have an insignificant but high negative relationship (-0.0834). This suggests that higher economic output does not directly correlate with lower multidimensional poverty. While economic growth is essential, it alone is insufficient to alleviate poverty, indicating the need for targeted social and economic policies. The relationship between MPI and IMR is significantly positive (0.6290*), indicating that higher infant mortality rates are associated with higher multidimensional poverty. This highlights the critical impact of child health on poverty, emphasizing the need for improved healthcare services to reduce poverty levels.

Similarly, there is a significant positive correlation between MPI and MMR (0.4730*), suggesting that higher maternal mortality rates are linked to higher multidimensional poverty. This underscores the importance of maternal health in poverty reduction efforts, necessitating enhanced maternal care and health services. Conversely, MPI and Literacy Rate have an insignificant negative relationship (-0.2111). Although higher literacy rates are generally associated with lower poverty, the weak correlation suggests that literacy alone does not sufficiently address multidimensional poverty, pointing to the need for broader educational and socio-economic interventions.

A strong significant negative correlation exists between MPI and HDI (-0.8083*), indicating that states with higher HDI values, which reflect better socio-economic development, tend to have lower multidimensional poverty. This emphasizes the importance of holistic development encompassing health, education, and living standards in poverty reduction. The correlation between MPI and Workforce Participation Rate (WPR) is insignificant and negative (-0.2585). While workforce

participation is essential for economic well-being, its weak correlation with MPI suggests that mere participation in the workforce does not significantly influence multidimensional poverty without considering the quality and nature of employment.

In summary, the correlation analysis highlights that while economic output (GSDP) has a limited direct impact on MPI, health indicators like IMR and MMR have a significant influence on multidimensional poverty. Education (LR) and socio-economic development (HDI) play crucial roles in reducing poverty, though their effects are not uniformly strong. The findings underscore the multifaceted nature of poverty, necessitating comprehensive policies that address health, education, and economic factors to effectively reduce multidimensional poverty in India.

Table 1.3
Correlates of Multidimensional Poverty in India

Variables	MPI	GSDPcp	IMR	MMR	LR	HDI	WPR
MPI	1						
GSDPcp	-0.0834	1					
IMR	0.6290*	0.0734	1				
MMR	0.4730*	-0.1700	0.6835*	1			
LR	-0.2111	-0.0664	-0.3693*	-0.0411	1		
HDI	-0.8083*	-0.0731	-0.7606*	-0.5474*	0.4026*	1	
WPR	-0.2585	-0.0122	-0.2331	-0.2248	0.1541	0.0903	1

Note: * 5% Significance Level

CONCLUSIONS

The foregoing analysis reveals that the national poverty rate in India has significantly decreased, according to a review of income poverty trends across several decades. The overall poverty rate decreased by 33.36 percentage points, from 54.93% to 21.57%, between 1973–1974 and 2009–2010. This decrease is the result of a number of economic changes, social welfare initiatives, and focused efforts to reduce poverty. In comparison to urban regions, poverty decreased more sharply in rural areas, declining by 34.02 percentage points whereas it decreased by 29.96 percentage points in urban areas. The number of urban poor increased slightly despite the overall decline because to causes like population growth, fast urbanization, and migration from rural to urban regions.

Significant regional variance in poverty rates can be seen by closely examining state-level data. The states with the lowest rates of poverty were those with higher Human Development Index (HDI) rankings, like Kerala, Goa, Himachal Pradesh, and Punjab. Kerala, for example, has a 9.38% poverty rate, which is explained by its strong public health systems, high literacy rates, and social development initiatives. States like Bihar, Uttar Pradesh, and Madhya Pradesh, on the other hand, have higher rates poverty due to lower HDI ranks. This discrepancy emphasizes the robust relationship between HDI and poverty levels, demonstrating the greater success in decreasing poverty in states with stronger socioeconomic indicators and more comprehensive programs.

The analysis of the Multidimensional Poverty Index (MPI) reveals a comprehensive understanding of poverty by examining various deprivation indicators beyond income. In India, MPI has decreased overall, with notable improvements seen in both rural and urban areas. Nonetheless, the decline in MPI is more noticeable in cities than in rural regions, which illustrates the continued difficulties in effectively addressing rural poverty. When it comes to particular deprivation dimensions, the areas most affected by deprivation are those that are related to fundamental living standards, such

as housing, sanitation, and cooking fuel. This suggests that there will always be difficulties obtaining access to sanitary facilities, clean cooking fuel, and sufficient accommodation, particularly in rural areas where infrastructure development lags behind urban centres. After these, there are additional noteworthy health-related deprivations, especially in the areas of child mortality and nutrition. This is a reflection of persistent problems in providing enough nourishment and healthcare, which are made worse by differences between rural and urban areas' access to high-quality medical facilities.

The Government of India has made significant strides in enhancing the quality of life for millions of individuals, with a focus on the Sustainable Development Goal (SDG) 1.2 target of halving poverty in all its dimensions. Initiatives such as Poshan Abhiyan and Anaemia Mukh Bharat have played a crucial role in improving health outcomes, while the Targeted Public Distribution System and Pradhan Mantri Garib Kalyan Anna Yojana have ensured food security for millions. The Ujjwala Yojana has provided clean cooking fuel to numerous households, and programs like Saubhagya, Swachh Bharat Mission, and Jal Jeevan Mission have significantly improved access to electricity, sanitation, and clean drinking water. Financial inclusion efforts through Pradhan Mantri Jan Dhan Yojana and housing initiatives under PM Awas Yojana have further contributed to poverty alleviation.

Over the last two decades, there have been substantial improvements in the quality of life for people, with poverty levels declining sharply from more than 50% to 11.28%. India is poised to reach single-digit poverty levels during 2024. The rate of reduction in multidimensional poverty has accelerated due to multiple government efforts aimed at certain components of deprivation. The Sustainable Development Goals have been aided by the approximately 24.82 crore individuals who have been lifted out of multidimensional poverty, resulting in a 17.89 percentage point decrease in the headcount ratio. States perform differently, yet some historically high-poverty states have achieved impressive strides in poverty reduction, which has decreased inter-state disparities in multidimensional poverty. These developments are paving the way for India to aim for development by 2047 by swiftly resolving fundamental issues with obtaining basic services.

In conclusion, while India has made significant strides in reducing income poverty and multidimensional deprivation, the journey is far from complete. The MPI analysis underscores the need for a holistic approach to poverty alleviation, prioritizing improvements in basic living standards alongside health and education advancements. A sustained commitment to comprehensive development policies that address regional disparities and target specific areas of deprivation is crucial for achieving further progress in alleviating poverty and enhancing the well-being of all citizens.

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