

Multidimensional Poverty in the context of Sustainable Development in India: Comparative analysis of Kerala and Uttar Pradesh

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Abstract: The impact of poverty is all-encompassing; hence, studying its multidimensional nature becomes imperative. Thus, the paper aims to give a comprehensive understanding of the multidimensional nature of poverty in the context of Sustainable development in India. It compares in detail the Multidimensional Poverty Index (MPI) performance of the states Kerala and Uttar Pradesh. It seeks to analyze the MPI indicators that contribute to the stark differences in MPI index values of the two states. This investigation extensively uses secondary data from National Family Health Surveys (NFHS)- 4 and 5 conducted in 2015-16 and 2019-21, respectively and draws an elaborate comparison of the performance of the two states using data for the two time periods. MPI consists of three equally weighted dimensions: health, education and living standards, having a total of 12 indicators. The study also compares the performance of the two states across the 12 indicators of MPI using data from the latest reports, like the SDG India Index 2023-24 and the Comprehensive Annual Modular Survey 2022-23. The results highlight stark contrasts in multidimensional poverty between the two states, with Kerala the least poor and Uttar Pradesh lagging far behind. It explores in depth the major indicators, factors and government schemes that contribute to the contrast.

Keywords: Multidimensional poverty, Multidimensional poverty index, Sustainable development India, Uttar Pradesh, Kerala

Introduction

The 17 UN Sustainable Development Goals (SDGs), adopted on 25th September, 2015 by 193 member countries at the UN General Assembly, supersede the Millennium Development Goals and serve as a blueprint for achieving a sustainable future by 2030, addressing the most pressing global issues such as poverty, inequality, and climate change.

According to van Soest et al. (2019), the 2030 Agenda views the 17 SDGs as interrelated, meaning that advancement towards one goal is linked to the status of other goals. The set of measurable targets (169 in number) and unique indicators (234 in number) under each goal are intended to guide, monitor, and measure efforts and progress of the countries towards the attainment of the Sustainable Development Goals. While there have been impressive advancements, such as lower rates of HIV infections and child mortality as well as better access to energy, water, and sanitation, only 16.7 percent of the SDG targets are on track to be achieved globally

The World Bank defines Poverty as “pronounced deprivation in well-being”. It states that the poor are those who do not have enough income or consumption to put them above some adequate minimum threshold. The first Sustainable Development Goal itself is Poverty eradication. It aims to “End poverty in all its forms everywhere.

Poverty is multidimensional. Poor health, a lack of education, job uncertainty, or inadequate living conditions are just a few of the numerous types of deprivation that people in poverty may encounter simultaneously. Poverty hinders the achievement of most SDGs, as its multidimensional nature is

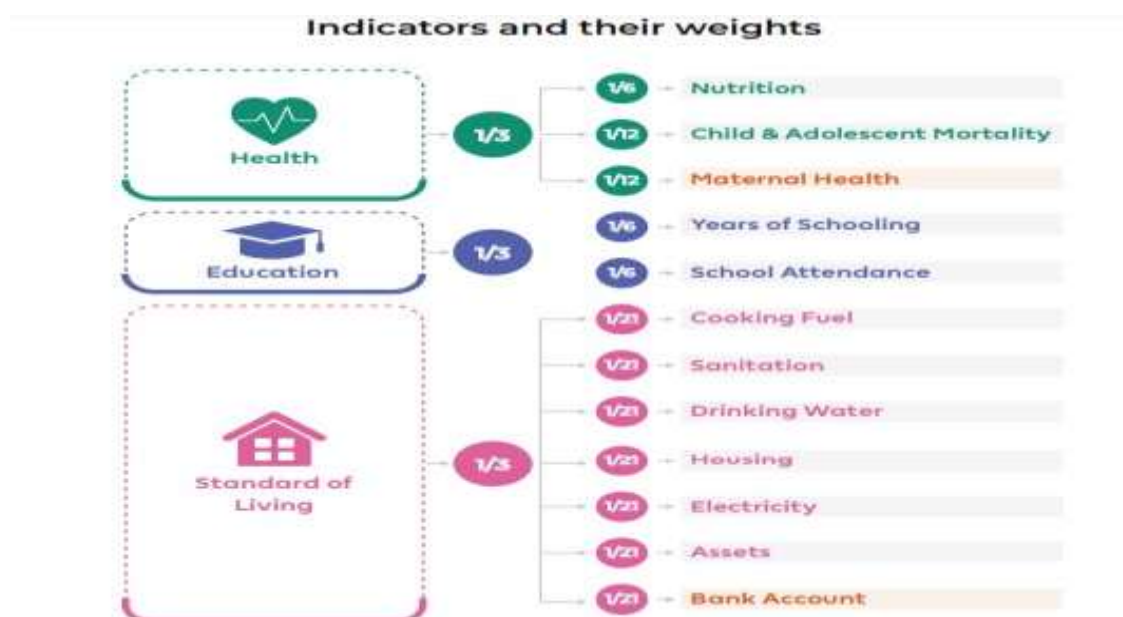
inextricably linked to several major goals, such as goal 2- Zero Hunger, 3- Good Health and well-being, 4- Quality Education, 6- Clean water and sanitation, and 8- Decent Work and Economic Growth. That is why the Sustainable Development Goals (SDGs) explicitly include a target on reducing multidimensional poverty. The SDG Target 1.2 is 'by 2030 (to) reduce at least by half the proportion of men, women and children of all ages living in poverty in all its dimensions, according to national definitions'.

INDIA and the Sustainable Development Goals

With 234 million citizens, India is the world's largest democracy, but the nation which is the world's largest democracy, is also home to the largest number of people in extreme poverty as per the **Global Multidimensional Poverty Index (MPI)report 2024**. Surpassing the two-trillion mark in 2016, India has emerged as one of the foremost contributors to the global economy over the last decade. India's economy is currently the second largest in Asia and the fourth largest in the world. It is ranked 99th in the UN Sustainable Development Report (SDR) 2025, grabbing a spot first time in the top 100 out of 167 nations with a score of 67 (where 100 indicates a country has achieved all 17 goals and 0 means no progress has been made). Yet India's score is still below the global average in nine of the sixteen Sustainable Development Goals.

India presents a fascinating amalgamation of contradictions and contrasts due to the diversified nature of its 28 states. Although Kerala is not among the wealthiest states in India, it has continuously been placed first in a number of social development metrics, including standard of living, healthcare, education, and literacy. Kerala has emerged as the least poor state in the country. While Uttar Pradesh currently has the third largest economy among Indian states, it is the state that is home to the second highest number of poor, only behind Bihar.

Multidimensional Poverty is measured by the Multidimensional Poverty Index (MPI). The internationally recognized Alkire Foster technique is used by NITI Aayog's National Multidimensional Poverty Index, with the exception that the global MPI comprises 10 indicators, whilst the national MPI covers 12. Like the global MPI, India's national MPI has three equally weighted dimensions – Health, Education, and Standard of living – which are represented by 12 indicators, with each indicator being assigned a weight. 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 12 indicators)



Source: National Multidimensional Poverty Index, 2023

Literature Review

According to Wei, Y., et al. (2023), poverty is a major obstacle to the SDGs' implementation. They look at how poverty affects trade-offs and synergies amongst SDGs, and they find that poverty increases trade-offs and prevents synergies. In particular, it was discovered that poverty subversively affected the connections between the various SDGs, converting trade-offs into synergies. assessed how poverty affected the SDG Index differently for each of the study area's poverty groups. This is important for theory and policy relating to the SDGs as well as for developing targeted policies.

Das,P., et al. (2022) explored the regional disparities of multidimensional poverty (MPI)in the context of India within a decade using the latest available household data, estimating MPI using Alkire and Foster methodology. The study divides the geographic area of India into six regions: Northern, Eastern, North Eastern, Central, Western and Southern region and concludes that the Eastern rural region has the highest MPI 0.43 (2005–2006) and 0.21 (2015–2016)

Paria, B., et al. (2023) utilize the latest data sets to analyze the trends of MPI at the all-India level, across geographic locations, castes and religious groups. The data indicates a significant decrease in MPI during the sub-period from 2015–2016 to 2019–2021; however, the overall trend across the states of India remains non-regressive. The states that were worst performing in 2005–2006 continue to be the same in 2019–2021.

Objectives

- To analyze India's progress towards sustainable development with special reference to Multidimensional poverty
- To assess and compare the performance of Uttar Pradesh and Kerala in removing Multidimensional Poverty over the past 10 years, and their current data trends
- To identify the MPI indicators that contribute most to Multidimensional Poverty in the two states and compare sub-indicators' performance (mainly sustainable development goal indicators) under each indicator for the states of Uttar Pradesh and Kerala

Methodology

The study is based on secondary data. The study compares the Multidimensional Poverty levels of Kerala and Uttar Pradesh over the duration 2015-16 to 2019-20. It uses the latest data sets of 2022-24 to compare the sub-indicators which are majorly under each MPI indicator for the two states Uttar Pradesh and Kerala. The data has been collected mainly from government reports and annual surveys like National Family Health Surveys(NFHS)- 4 and 5, and Comprehensive Annual Modular Survey(CAMS) 2022-23.

Data analysis and Interpretation

The World Bank states that the five most populous states—Uttar Pradesh, Maharashtra, Bihar, West Bengal, and Madhya Pradesh—accounted for 65 percent of the country's extreme poor in 2011-12 and contributed to two-thirds of the overall decline in extreme poverty by 2022-23. Nevertheless, these states still accounted for 54 percent of India's extremely poor (2022-23) and 51 percent of the multidimensionally poor (2019-21).

According to the state-wise multi-dimensional poverty index in India, the minimum deprivation or the lowest MPI was observed in Kerala, having 0.003 in 2015-16 followed by Goa 0.015, Sikkim 0.016 and Tamil Nadu 0.019 respectively. On the other hand, maximum deprivation or the highest MPI was observed in Bihar showing 0.265 followed by Jharkhand 0.202, Uttar Pradesh 0.179 and Madhya Pradesh 0.173 respectively. In 2019-21, the lowest MPI was again observed in Kerala having 0.002 and the highest MPI was observed in Bihar showing 0.160 followed by Meghalaya 0.133, Jharkhand 0.131

and Uttar Pradesh 0.103 respectively. All the states have improved their MPI to a greater extent (Niti Aayog,2023)

Table 1: State-wise multidimensional poverty index

	NFHS-4 (2015–16)			NFHS-5 (2019–21)		
	Head Count ratio(H)	Intensity(A)	MPI(H*A)	Head Count ratio(H)	Intensity(A)	MPI(H*A)
Kerala	0.7%	38.99%	0.003	0.55%	36.92%	0.002
Uttar Pradesh	37.68%	47.60%	0.179	22.93%	44.83%	0.103

Source: National Multidimensional Poverty Index

With only 0.55% of its population classified as multidimensionally poor, Kerala has outperformed other states, reaffirming its position as a model for inclusive growth and sustainable development.

Kerala has emerged as the State with the least multidimensional poverty across India, according to NITI Aayog's first Multidimensional Poverty Index (MPI) report, whereas Uttar Pradesh is among the top five states having the highest percentage of population who are multidimensionally poor. Nevertheless, Uttar Pradesh has witnessed the fastest reduction in terms of the number of MPI poor with 3.43 crore people escaping multidimensional poverty in five year gap between 2015-16 and 2019-21

Percentage Contribution of each indicator to Uttar Pradesh's MPI Score

Table 2: Indicators' contribution to Uttar Pradesh's MPI Score

Indicator Contribution to MPI	NFHS 4(2015-16)		Indicator Contribution to MPI	NFHS 5(2019-21)
Nutrition	28.25%		Nutrition	29.91%
Years of Schooling	13.98%		Years of Schooling	14.94%
Maternal Health	11.71%		Maternal Health	12.94%
School Attendance	9.26%		School Attendance	12.35%
Housing	9.09%		Cooking Fuel	9.06%
Cooking Fuel	8.85%		Housing	8.32%
Sanitation	8.43%		Sanitation	5.52%
Electricity	4.87%		Electricity	2.31%
Assets	2.35%		Assets	1.95%
Child and Adolescent Mortality	1.77%		Child and Adolescent Mortality	1.79%
Bank Account	0.88%		Bank Account	0.49%
Drinking Water	0.56%		Drinking Water	0.43%

Source: National Multidimensional Poverty Index

The indicator with the largest contribution is the one whose deprivation is the most widespread for a given population. For Uttar Pradesh, the performance of the 3 indicators with the most weightage, i.e. Nutrition, School attendance and Years of Schooling, has improved from NFHS 4 to 5. Out of the remaining 9 indicators, which have been assigned an equal but lesser weight compared to the above three indicators, Maternal Health has been contributing the most to Multidimensional poverty among the people of Uttar Pradesh, whereas Drinking water's contribution is the least for 2015-16 as well as 2019-21. We can conclude from the table that -Nutrition, Years of Schooling and Maternal Health are the indicators that need the most attention of the state government as they contribute the most to Uttar Pradesh's MPI

Percentage Contribution of each indicator to Kerala's MPI Score

Table 3: Indicators' contribution to Kerala's MPI Score

Indicator Contribution to MPI	NFHS 4(2015-16)		Indicator Contribution to MPI	NFHS 5(2019-21)
Nutrition	34.12%		Nutrition	36.61%
School Attendance	13.66%		Years of Schooling	13.58%
Years of Schooling	11.20%		Cooking Fuel	10.03%
Cooking Fuel	10.01%		Housing	8.80%
Housing	6.90%		Maternal Health	8.16%
Assets	5.58%		Assets	6.54%
Sanitation	5.17%		School Attendance	5.15%
Maternal Health	4.50%		Bank Account	3.21%
Electricity	3.47%		Electricity	2.86%
Bank Account	2.98%		Drinking Water	2.50%
Drinking Water	2.27%		Sanitation	2.12%
Child and Adolescent Mortality	0.14%		Child and Adolescent Mortality	0.44%

Source: National Multidimensional Poverty Index

Viewing Kerala's performance of the 3 indicators with the most weightage i.e. Nutrition, School attendance and Years of Schooling, we observe that performance of Nutrition and Years of schooling has deteriorated as we move from NFHS 4 to 5 as their contribution to MPI has increased, whereas School Attendance contribution has decreased immensely. Out of the remaining 9 indicators, Cooking fuel has been contributing the most to Multidimensional poverty among the people of Kerala, whereas child and adolescent mortality contributes least in 2015-16 as well as 2019-21. It is important to remember that Kerala's overall MPI is the lowest in the country. This means that while nutrition may have the largest proportional weight in the state's MPI, the actual level of nutritional poverty is very low compared to other states. We can conclude from the table that -Nutrition, Years of Schooling and cooking fuel are the indicators that need the most attention of the state government as they contribute the most to Kerala's MPI

Comparing Sub-indicators of MPI Indicators for the two states(2022-24)

Comparison of Sub-indicators under Health

Table 4: Comparison of Sub-indicators under Health

Health	Indicators					
	Nutrition		Child and Adolescent Mortality		Maternal Health	
	%of children under 5 who are stunted	%of children under 5 who are underweight	Under five Mortality rate(per 1000 live births)	Maternal Mortality ratio (per 100,000 live births)	%of Pregnant women(aged 15-49)who are anaemic	%of women(aged 15-49)whose Body mass index is below 18.5
Kerala	23.4%	19.7%	8%	19%	31.4%	10.1%
Uttar Pradesh	39.7%	32.1%	43%	103%	45.9%	19%

We can conclude from the table that U.P. lags severely behind Kerala in all the sub-indicators. The starkest contrast is under the indicator Child and Adolescent Mortality.

Comparison of Sub-indicators under Education

Table 5: Comparison of Sub-indicators under Education

Education	Indicators		
	Years of schooling		School Attendance
	Mean years of schooling in formal education(15 years and above)	Mean years of schooling in formal education(25 years and above)	% of enrolled children attending school
Kerala	10.8% ¹	0.1%	81-85%
Uttar Pradesh	7.7%	6.6%	50-60%

Note: School attendance has been calculated as on the day of the ASER survey 2022

We can conclude from the table that U.P. lags behind Kerala in all the sub-indicators, with the maximum difference under the School Attendance indicator

Comparison of Sub-indicators under Standard of Living

Table 6: Comparison of Sub-indicators under Standard of Living

Standard of Living	Indicators						
	cooking fuel	Sanitation	drinking water	electricity	assets		bank accounts
	% of LPG+PNG Connections against number of households	% of households having access to improved latrine (among households with access to latrine)	% of households having access to improved principal source of drinking water	% of households electrified	% of persons having telephone (including landline) /mobile phone (including smartphone)	% of persons having computer (desktop PC, laptop)	Percentage of persons who have an account individually or jointly in any bank/ other financial institution/mobile money service provider(18 years and above)
Kerala	100.18%	99.2%	54.4%	100%	99.3%	22%	95.2%
Uttar Pradesh	107.37%	98.5%	99.5%	100%	95.8%	5.9%	91.6%

We can conclude from the table that U.P. lags behind Kerala in majority of the sub-indicators, except for two indicators i.e. cooking fuel and drinking water. Kerala lags severely behind Uttar Pradesh in access to improved principal source of drinking water.

Recommendations and Conclusion

Recommendations

Uttar Pradesh has pulled maximum people out of multidimensional poverty between 2013-14 and 2022-23 as per the latest reports due to noteworthy initiatives by the Indian government like the Targeted Public Distribution System, Poshan Abhiyan, Anemia Mukht Bharat significantly improving healthcare to clean cooking fuel distribution through Ujjwala Yojana, improved electricity coverage via Saubhagya, campaigns and programs like Swachh Bharat Mission, Jal Jeevan Mission, Pradhan Mantri Jan Dhan Yojana and PM Awas Yojana can all be given credit for assisting people in overcoming deprivations in various segments. Yet it still currently ranks among states with the lowest Human Development Index and encompasses a huge number of multidimensionally poor population.

Kerala, the state with the second-highest human development index is making its way towards becoming the first extreme poverty-free Indian state. The various initiatives of the Kerala state government that have been effective in poverty reduction include the state's comprehensive Extreme Poverty Eradication Programme (EPEP), started in 2021. Kerala's strategy stood out because the government conducted local level surveys for identification of households in extreme deprivation (ones invisible to previous existing systems) which was done through a process of widespread community participation, led by local governments and supported by community extension workers like the ASHA and anganwadi workers, Kudumbashree (Kerala's poverty eradication and women empowerment mission started in 1998), activist organizations, Residential associations and panchayats. Tailored micro-plans, categorised into short-term, medium-term, and long-term interventions, were then developed by the local self-government department based on the families' deprivation. Another major initiative is the Nava Kerala Mission 2016 which aims to organize and coordinate sustainable development activities in 4 sectors: environment, housing, education and health by resolving existing limitations and utilizing people participation and technology to confront future challenges strategically.

Thus, lessons Uttar Pradesh must learn and emulate from Kerala are the systematic, state-led approach to development, participatory governance, bottom-up development, investing in human capital, decentralized participatory local governance with community involvement

Conclusion

Kerala has emerged as India's Leader in Poverty Reduction and Social development. It has the lowest poverty rate in India, with 0.55% of the population living in multidimensional poverty, in contrast to Uttar Pradesh, whose 22.93% population is multidimensionally poor as per NFHS-5 data (2019-21). The study uses data from government surveys NFHS-4 (2015-16) and 5 (2019-21) to compare the multidimensional poverty levels in the states of Uttar Pradesh and Kerala. It highlights that the top three indicators contributing most to Uttar Pradesh's multidimensional poverty are Nutrition and Years of Schooling and Maternal Health whereas for Kerala, it is Nutrition, Years of Schooling and cooking fuel. While comparing the sub-indicators, we observe that Kerala wins over Uttar Pradesh in the majority of them, with the only exception being Cooking Fuel and Drinking Water. Hence, the two states must work on their grey areas in their path towards the elimination of multidimensional poverty and attainment of sustainable development, as multidimensional poverty is interlinked with various sustainable development goals. Major lessons for Uttar Pradesh from Kerala are the major state government initiatives like the Extreme Poverty Eradication Programme and its implementation, which reflects decentralized participatory local governance and community involvement, a state-led approach to development with its focus and investment towards human development that gives it the lead among the states in the path towards sustainable development.

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