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TRENDS IN MULTIDIMENSIONAL POVERTY IN INDIA: EVIDENCE FROM NFHS-4 AND NFHS-5

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Keywords	*Abstract*
Multidimensional poverty, Poverty in India, Multidimensional Poverty Index, NFHS, Rural and urban poverty	This study examines trends in multidimensional poverty in India using official data from the National Multidimensional Poverty Index prepared by NITI Aayog with technical support from the United Nations Development Programme. The analysis is based on National Family Health Survey data from NFHS-4 (2015–16) and NFHS-5 (2019–21). The study focuses on changes in the incidence of multidimensional poverty at the national level and compares poverty trends between rural and urban areas. The findings show a significant decline in the multidimensional poverty headcount ratio in India during the study period, indicating that a large proportion of the population moved out of poverty. The reduction in poverty was observed in both rural and urban areas, though rural areas continued to experience higher levels of deprivation. The results highlight that while India has made substantial progress in reducing multidimensional poverty, disparities between rural and urban regions persist. The study relies exclusively on official MPI data and uses a descriptive approach based on two tables and two figures. The findings contribute to understanding recent poverty trends in India and provide

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	useful insights for monitoring progress towards poverty reduction goals.

1. Introduction

Poverty continues to remain a central development concern in India, where a large section of the population faces deprivation that goes beyond low income. Traditional poverty measures based on income or consumption capture only one dimension of deprivation and fail to reflect shortcomings related to health, education, and living conditions. To address this limitation, multidimensional approaches to poverty measurement have become increasingly relevant. The Multidimensional Poverty Index provides a comprehensive framework by measuring deprivation across multiple indicators simultaneously, which helps in identifying both the extent and depth of poverty. In India, the official measurement of multidimensional poverty is carried out through the National Multidimensional Poverty Index prepared by NITI Aayog with technical support from the United Nations Development Programme, using data from the National Family Health Survey. The MPI Progress Review 2023, based on NFHS-4 (2015–16) and NFHS-5 (2019–21), shows a substantial decline in multidimensional poverty at the national level, along with clear differences between rural and urban areas (UNDP [1]; NITI Aayog [2]). These trends indicate significant progress in poverty reduction, while also highlighting the persistence of higher deprivation in rural regions. In this context, analysing national and rural–urban patterns of multidimensional poverty using official MPI data is important for understanding the direction of poverty reduction and for informing policy interventions. The present study therefore examines changes in the incidence of multidimensional poverty in India and compares rural and urban poverty trends using the UNDP–NITI Aayog MPI framework based on NFHS data.

2. Literature Review

The official assessment of multidimensional poverty in India is provided through the National Multidimensional Poverty Index, prepared by NITI Aayog with technical support from the United Nations Development Programme. The MPI Progress Review 2023 uses data from NFHS-4 and NFHS-5 and applies a uniform methodology to measure poverty across health, education, and standard of living indicators. The report documents a substantial decline in multidimensional poverty in India between 2015–16 and 2019–21 and serves as the main reference for recent poverty analysis in the country (UNDP [1]).

The NITI Aayog MPI report further explains the institutional and methodological framework used for poverty measurement in India. It highlights that the Alkire–Foster method allows simultaneous assessment of the incidence and intensity of poverty, which helps in tracking changes over time. The report also emphasizes the importance of using NFHS data for comparability and policy relevance, especially for monitoring progress towards Sustainable Development Goal 1.2 (NITI Aayog [2]).

Md. Shamshad Alam & Azra Bano (2026). ***Trends in Multidimensional Poverty in India: Evidence from NFHS-4 and NFHS-5.*** International Journal of Multidisciplinary Research & Reviews. 5(4). 372-381.

The theoretical foundation of the multidimensional poverty index is provided by Alkire and Foster. Their work explains how poverty can be measured using multiple dimensions rather than income alone. The Alkire–Foster method identifies the poor based on overlapping deprivations and aggregates these deprivations into a single index. This approach forms the conceptual basis of India's national MPI and supports its use in empirical poverty analysis (Alkire and Foster [3]).

Empirical studies using NFHS data have applied the multidimensional approach to examine poverty outcomes in India. Pradhan et al. used NFHS-4 and NFHS-5 data to study multidimensional child poverty and found that deprivation in nutrition, education, and living standards remained significant during the study period. Their findings underline the relevance of MPI indicators derived from NFHS surveys for understanding poverty patterns in India (Pradhan et al. [4]).

Further evidence on poverty reduction using NFHS data is provided by Pradhan et al., who conducted a decomposition analysis to assess changes in multidimensional childhood poverty between NFHS-4 and NFHS-5. Their study showed that reductions in poverty were driven mainly by improvements in access to basic services, while reductions in intensity were relatively slower. These results align closely with the trends reported in the national MPI reports (Pradhan et al. [5]).

State-level analysis of multidimensional poverty has also been carried out using the MPI framework. Jagadeshwaran et al. examined state wise variations in multidimensional poverty in India and found large regional disparities. Their study showed that although poverty declined across states, rural areas and less developed regions continued to experience higher deprivation levels, supporting the need for disaggregated MPI analysis (Jagadeshwaran et al. [6]).

The reliability of the multidimensional poverty index has been tested in recent methodological research. Faizi et al. compared MPI with a poverty scorecard approach using rural household data and found that MPI provides valid and consistent estimates of household poverty. Their findings support the robustness of MPI as a measurement tool and strengthen its use for policy and research purposes in the Indian context (Faizi et al. [7]).

Overall, the reviewed literature confirms that the UNDP–NITI Aayog MPI based on NFHS data is a reliable and policy relevant measure of poverty in India. Existing studies validate both the methodology and the observed decline in multidimensional poverty, while also highlighting persistent rural and regional disparities. This provides a strong foundation for analysing national and rural–urban poverty trends using MPI indicators.

3. Objectives of the Study

The present study is undertaken with the following specific objectives.

Md. Shamshad Alam & Azra Bano (2026). ***Trends in Multidimensional Poverty in India: Evidence from NFHS-4 and NFHS-5.*** International Journal of Multidisciplinary Research & Reviews. 5(4). 372-381.

Objective 1: To examine the change in the incidence of multidimensional poverty in India between NFHS-4 (2015–16) and NFHS-5 (2019–21) using the national Multidimensional Poverty Index headcount ratio.

Objective 2: To compare the change in multidimensional poverty headcount ratio between rural and urban India during NFHS-4 (2015–16) and NFHS-5 (2019–21).

These objectives are examined using official UNDP–NITI Aayog MPI data based on NFHS surveys. Each objective is directly analysed through one table and one corresponding figure, which allows a clear and focused interpretation of poverty trends.

4. Data Source and Methodology

4.1 Data Source

The study is based entirely on secondary data obtained from the National Multidimensional Poverty Index Progress Review 2023, prepared by the United Nations Development Programme in collaboration with NITI Aayog. This report uses data from the National Family Health Survey, specifically NFHS-4 (2015–16) and NFHS-5 (2019–21), which are nationally representative household surveys conducted in India (UNDP [1]; NITI Aayog [2]).

The NFHS surveys provide detailed information on health, education, and living standards of households. These surveys are widely used for poverty and welfare analysis because of their large sample size and consistent methodology across survey rounds. The use of NFHS-4 and NFHS-5 allows a reliable comparison of multidimensional poverty over time.

4.2 Measurement of Multidimensional Poverty

Multidimensional poverty is measured using the Alkire–Foster methodology, which forms the conceptual basis of India's national MPI. The MPI identifies households as multidimensionally poor if they experience deprivations in multiple indicators across three dimensions, namely health, education, and standard of living (Alkire and Foster [3]). However, the present study does not construct the index independently and relies on officially published MPI values.

The analysis uses three MPI indicators reported in the UNDP–NITI Aayog framework:
the headcount ratio, which shows the proportion of the population that is multidimensionally poor;
the intensity of poverty, which measures the average level of deprivation among the poor;
and the MPI value, which combines both incidence and intensity of poverty.

4.3 Method of Analysis

The study follows a descriptive and comparative approach. Two tables and two figures are used for analysis. The first table and figure examine changes in the national multidimensional poverty

headcount ratio between NFHS-4 and NFHS-5. The second table and figure compare rural and urban multidimensional poverty levels across the same period.

The objectives of the study are addressed by visually and numerically examining changes in the headcount ratio over time. No econometric techniques are applied. This approach ensures clarity and allows direct interpretation of poverty trends based on official data.

5. Analysis of Multidimensional Poverty in India

5.1 National Trends in Multidimensional Poverty

Table 1 presents the national level Multidimensional Poverty Index indicators for India based on NFHS-4 (2015–16) and NFHS-5 (2019–21).

Table 1. National Multidimensional Poverty in India

Survey Year	MPI Value	Headcount Ratio (%)	Intensity of Poverty (%)
NFHS-4 (2015–16)	0.117	24.85	47.14
NFHS-5 (2019–21)	0.066	14.96	44.39

Source: UNDP (2023); NITI Aayog
(2023

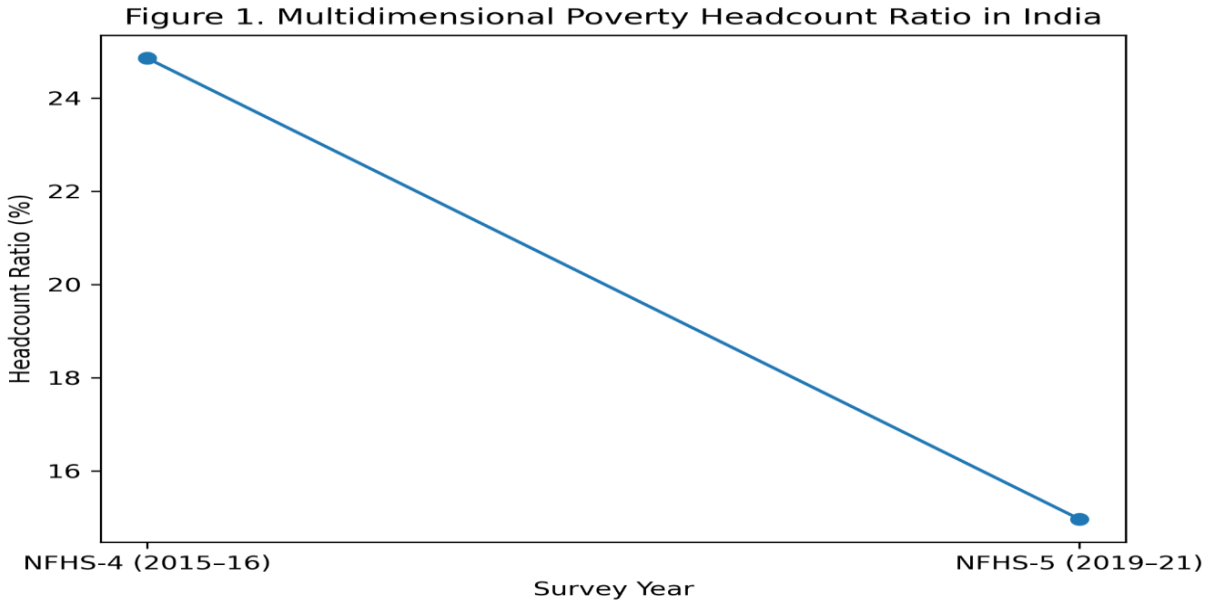

Figure 1. Multidimensional Poverty Headcount Ratio in India, NFHS-4 and NFHS-5
(Figure derived from Table 1)

Md. Shamshad Alam & Azra Bano (2026). ***Trends in Multidimensional Poverty in India: Evidence from NFHS-4 and NFHS-5.*** International Journal of Multidisciplinary Research & Reviews. 5(4). 372-381.

Table 1 shows a sharp decline in multidimensional poverty in India during the study period. The headcount ratio declined from 24.85 percent in 2015–16 to 14.96 percent in 2019–21, indicating that a large proportion of the population moved out of multidimensional poverty. The MPI value also declined substantially from 0.117 to 0.066, reflecting an overall reduction in poverty burden. The intensity of poverty declined from 47.14 percent to 44.39 percent, which shows that the average level of deprivation among the poor reduced, though at a slower pace than the decline in headcount ratio.

Figure 1, derived from Table 1, clearly illustrates the decline in the incidence of multidimensional poverty in India across the two survey periods. The visual representation strengthens the numerical evidence and highlights the magnitude of poverty reduction at the national level.

5.2 Rural–Urban Comparison of Multidimensional Poverty

Table 2 presents the rural and urban distribution of multidimensional poverty indicators based on NFHS-4 and NFHS-5.

Table 2. Rural and Urban Multidimensional Poverty in India

Area	Survey Year	MPI Value	Headcount Ratio (%)	Intensity of Poverty (%)
Rural	NFHS-4 (2015–16)	0.154	32.59	47.38
Rural	NFHS-5 (2019–21)	0.085	19.28	44.55
Urban	NFHS-4 (2015–16)	0.039	8.65	45.27
Urban	NFHS-5 (2019–21)	0.023	5.27	43.10

Source: UNDP (2023); NITI Aayog (2023)

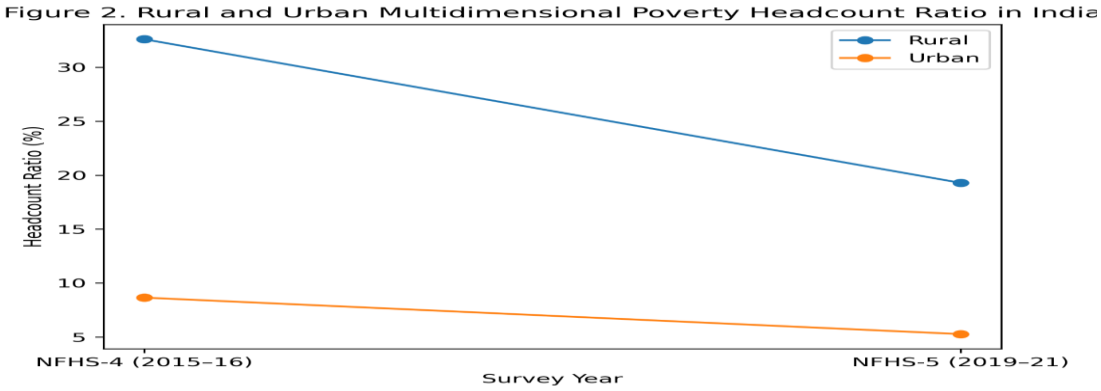

Figure 2. Rural and Urban Multidimensional Poverty Headcount Ratio in India, NFHS-4 and NFHS-5(Figure derived from Table 2)

Md. Shamshad Alam & Azra Bano (2026). ***Trends in Multidimensional Poverty in India: Evidence from NFHS-4 and NFHS-5.*** International Journal of Multidisciplinary Research & Reviews. 5(4). 372-381.

Table 2 indicates that multidimensional poverty was significantly higher in rural areas than in urban areas during both survey periods. In rural India, the headcount ratio declined from 32.59 percent to 19.28 percent, while in urban India it declined from 8.65 percent to 5.27 percent. The MPI value also declined in both areas, with a larger absolute reduction observed in rural areas. However, the intensity of poverty remained higher in rural areas compared to urban areas, indicating deeper deprivation among the rural poor.

Figure 2, derived from Table 2, clearly depicts the rural–urban gap in multidimensional poverty. The figure shows that although both rural and urban areas experienced a decline in poverty, rural poverty levels remained consistently higher. The larger absolute decline in rural headcount ratio suggests faster poverty reduction, but the persistence of higher rural poverty highlights structural disadvantages.

5.3 Fulfilment of Objectives

The analysis based on Table 1 and Figure 1 directly fulfils Objective 1, which aimed to examine the change in the incidence of multidimensional poverty in India between NFHS-4 and NFHS-5. The clear decline in the national headcount ratio confirms a significant reduction in multidimensional poverty at the national level.

The analysis based on Table 2 and Figure 2 fulfils Objective 2, which aimed to compare changes in multidimensional poverty between rural and urban India. The rural–urban comparison shows that while poverty declined in both areas, rural poverty remained higher, and the absolute reduction was larger in rural areas. Thus, both objectives of the study are fully addressed using the two tables and their corresponding figures based on official MPI data.

6. Discussion

The results presented in the analysis section indicate a clear decline in multidimensional poverty in India between 2015–16 and 2019–21. The reduction in the headcount ratio suggests that a significant proportion of the population moved out of multidimensional poverty during this period. However, the relatively smaller decline in the intensity of poverty shows that households that remain poor continue to face multiple deprivations. The rural–urban comparison highlights that poverty reduction has been faster in rural areas in absolute terms, but rural poverty levels remain higher than urban levels. These findings are consistent with the trends reported in official MPI reports and recent empirical studies based on NFHS data. The results indicate that improvements in basic services and social sector interventions have played an important role in reducing poverty, though structural disadvantages in rural areas persist.

7. Policy Implications

The findings of the study have important policy implications. The decline in multidimensional poverty indicates that existing poverty reduction programmes have been effective to a large extent.

Md. Shamshad Alam & Azra Bano (2026). ***Trends in Multidimensional Poverty in India: Evidence from NFHS-4 and NFHS-5.*** International Journal of Multidisciplinary Research & Reviews. 5(4). 372-381.

However, the persistence of higher poverty levels and intensity in rural areas suggests the need for targeted interventions. Policies focusing on health, education, sanitation, and housing remain crucial for further reduction in multidimensional poverty. Special attention is required for rural households to address overlapping deprivations. The use of MPI based on NFHS data provides a reliable framework for monitoring policy outcomes and should continue to guide poverty related planning and evaluation.

8. Suggestions

Based on the findings of the study, a few suggestions can be made to further reduce multidimensional poverty in India. First, policy efforts should continue to focus on improving basic services related to health, education, and living standards, as these dimensions directly influence multidimensional poverty outcomes. Second, special attention is required for rural areas, where poverty levels and intensity remain higher despite faster absolute reduction. Targeted interventions addressing sanitation, nutrition, housing, and access to clean energy in rural regions can help reduce overlapping deprivations. Third, regular monitoring of poverty trends using the Multidimensional Poverty Index should be strengthened, as MPI provides a more comprehensive picture than income based measures. Fourth, convergence of social sector schemes at the household level should be improved to ensure that the remaining poor benefit from multiple interventions simultaneously. Finally, future policy planning should continue to rely on NFHS based MPI data to track progress towards poverty reduction goals in a consistent and transparent manner.

9. Conclusion

This study examined trends in multidimensional poverty in India using official data from the UNDP–NITI Aayog National Multidimensional Poverty Index based on NFHS-4 and NFHS-5. The analysis focused on changes in the poverty headcount ratio at the national level and differences between rural and urban areas.

The findings show a clear decline in multidimensional poverty in India between 2015-16 and 2019-21. The national headcount ratio reduced sharply, which indicates that a large proportion of the population moved out of multidimensional poverty during this period. The reduction in the MPI value further confirms an overall improvement in living conditions related to health, education, and standard of living. The rural–urban analysis highlights important structural differences. Although rural areas experienced a larger absolute reduction in multidimensional poverty, poverty levels remained significantly higher in rural areas compared to urban areas. The persistence of higher intensity of poverty in rural regions suggests that multiple deprivations continue to affect rural households. Overall, the study confirms that India has made substantial progress in reducing multidimensional poverty. At the same time, the results indicate the need for continued and targeted policy interventions, particularly in rural areas, to address remaining deprivations. The use of MPI based on NFHS data provides a reliable framework for monitoring poverty trends and assessing progress towards poverty reduction goals in India.

Md. Shamshad Alam & Azra Bano (2026). ***Trends in Multidimensional Poverty in India: Evidence from NFHS-4 and NFHS-5.*** International Journal of Multidisciplinary Research & Reviews. 5(4). 372-381.

10. AUTHOR(S) CONTRIBUTION

The writers affirm that they have no connections to, or engagement with, any group or body that provides financial or non-financial assistance for the topics or resources covered in this manuscript.

11. CONFLICTS OF INTEREST

The authors declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

12. PLAGIARISM POLICY

All authors declare that any kind of violation of plagiarism, copyright and ethical matters will take care by all authors. Journal and editors are not liable for aforesaid matters.

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