

RESEARCH PAPER

Poverty in the Hill Districts of Manipur: A Multidimensional Study

Ramthar Thanglen* and Damodar Nepram

Department of Economics, Manipur University, Manipur, India

*Corresponding author: daeramthar@gmail.com (ORCID ID: 0009-0003-3683-6715)

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ABSTRACT

This study investigates the multiple facets of poverty and its high incidence in the hill districts of Manipur state. It employs the NITI Aayog approach, a modified version of the Alkire-Foster method. It incorporates weights and indicators to compute the Multidimensional Poverty Index (MPI) and its decomposition across population, sub-group, dimension, and indicators. The study focuses on three dimensions and twelve indicators from National Multidimensional Poverty Index. The primary data analysis estimates the headcount ratio, intensity, and MPI at 0.328, 0.433, and 0.142, respectively. The study also reveals a higher poverty incidence in rural areas than urban areas. Nutrition is the most significant contributor to the MPI value, followed by years of schooling, attendance, and assets.

HIGHLIGHTS

- ① The study examines the prevalence of multifaceted poverty among households in hill districts of Manipur.
- ② The findings corroborate earlier data from the NITI Aayog report, demonstrating the prevalence and severity of multidimensional poverty in the study region.
- ③ Access to nutrition is the critical factor that contributes most to the MPI value.

Keywords: Multidimensional, Poverty, Alkire-Foster, Manipur, NITI Aayog

For the past decades, poverty reduction has been a top priority for policymakers and planners in India, and numerous policies and programs to end poverty have been a central focus of national plans. However, measuring poverty in India has posed significant challenges, and the methodology used to quantify poverty has often been scrutinized for revision and redesign. The income/consumption method, frequently known as the uni-dimensional approach, has long been the Planning Commission's preferred yardstick. The approach used to quantify poverty primarily consists of two components. The first step is to compile information on household spending habits using the National Sample Survey (NSS). This second step defines a floor below which households are deemed to live in poverty based on their consumption expenditures. However, critics

have levelled heavy criticism at poverty metrics that rely on a single characteristic, such as income or consumption. Monetary poverty measurements fail to do justice to the plight of people experiencing poverty due to the complex interplay between health, education, and living conditions. Erroneous policy targets have led to the failure of several government assistance programs and schemes. Multiple dimensions of deprivation define poverty, and the multidimensional approach provides the most convincing elucidation for this phenomenon. Researchers and policy think tanks worldwide have shown passion for the multidimensional

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method of measuring poverty. As early as the late 1980s, researchers have been working to develop a range of approaches and techniques to study multidimensional poverty. Alkire and Foster (2008) and Alkire *et al.* (2015) are among the multidimensional poverty approaches developed. This approach uses subgroup decomposition and dimensional breakdown to divide aggregate value into subgroup populations to identify poverty determinants. The government has also switched its poverty measurement strategy from income-based to multidimensional after nearly a decade since the last official poverty data. Even though researchers from NITI Aayog in India examined multidimensional poverty in every state in 2021 and 2023, empirical research on multidimensional poverty in Manipur is limited, particularly in the hill districts. Thus, measuring poverty from a holistic standpoint is both fortuitous and challenging.

The urban population of Manipur surpasses that of its rural counterparts. Based on the 2011 census, 48.8% of the population resides in hill districts, compared to 57.2% in valley districts. Despite its larger urban population, rural areas exhibit greater poverty rates. The NITI Aayog baseline report for 2021 states that Manipur's rural headcount ratio is 22.33, whereas, the urban headcount ratio is 8.49. Similarly, urban areas perform better regarding headcount ratios (3.43 and 10.95 for urban and rural areas, respectively) in the latest progress review report (2023). In light of this, it is necessary to examine the issue of why rural areas have a far greater poverty rate than urban ones and what factors lead to this uneven poverty pattern. We designed this paper to investigate the severity of household multidimensional poverty incidence and estimate multidimensional poverty in Manipur's hill districts.

LITERATURE REVIEW

Extensive empirical investigations of multidimensional poverty have been carried out worldwide and in India. We have reviewed a few of the related studies on multidimensional poverty. Alkire and Santos (2010) found that Sub-Saharan Africa and South Asia are home to multidimensional poor people. The study finds that 55.4 % of the population in India is multidimensionally poor. Zahra and Zafar (2015) find that almost 50 % of

the population is multidimensionally poor in urban Punjab of Pakistan. Education, health, employment, and absence of socio-economic infrastructure are the critical factors contributing to severe multidimensional poverty. Wang *et al.* (2016) used the Alkire-Foster (AF) method of measuring poverty to assess the relationship between multidimensional and unidimensional poverty in China. The findings reveal a 31% correlation between income and non-income poverty, suggesting that 69% of households with multiple degrees of poverty do not fall into income poverty. Najitama *et al.* (2020) investigate the changes in multidimensional poverty by analyzing data from the Indonesia Family Life Survey 4 and 5 (IFLS). The study finds that poverty in Indonesia exhibits a higher tendency towards transience rather than chronicity. Transient poor households have poor health, whereas chronic poor households have poor living standards. The education level of the head of the household, the village political system, the village government's corruption level, the dependency rate/level, and the island's location all impacted chronic and temporary poverty categories. Family size, head's marital status, and traditional standards are characteristics that only impact households experiencing chronic poverty.

Although a few empirical studies on multidimensional poverty metrics exist in India, they mainly concentrate on the major states. Mishra and Ray (2013) estimated non-income poverty in India using NFHS rounds 1, 2, and 3, and NSS rounds 50th to 61st data. The study concludes that multidimensional deprivation decreased in India throughout the chosen period. Nevertheless, there exists variation between urban and rural areas and between the reform and post-reform periods. Nutrition, cooking fuel, and drinking water are the primary causes of rural and urban deprivation. Bagli (2015) studied multidimensional poverty in the Bankura district of West Bengal to determine its prevalence and severity among households. The study found that Bankura district experiences multidimensional poverty beyond unidimensional poverty. The study reveals that 40% of the sample households are experiencing low income, while 52 % face multidimensional poverty. Using the AF methodology, Bagli and Tewari (2019) evaluated the multidimensional poverty index for the Purulia district, the most backward district in

West Bengal in India. The study findings revealed a higher multidimensional poverty rate in Purulia district than the national average. The incidence and intensity of poverty vary significantly across social castes. The poorest group is tribal, followed by scheduled castes, general castes, and other backward classes. Mothkoo and Badgaiyan (2021) found that between 2014-15 and 2017-18, at least 144 million individuals achieved poverty alleviation. Urban areas have seen a much higher rate of poverty reduction than rural ones, highlighting the importance of focusing on rural areas. Multiple empirical research by Debnath and Shah (2015, 2019, 2020) shows that a significant percentage of multidimensionally poor are deprived of health, education, and cooking fuel in Tripura and other north eastern states.

OBJECTIVES

The present study seeks to establish the following objectives:

1. To analyze the extent of multidimensional poverty in hill districts of Manipur.
2. To analyse the rural-urban poverty level.
3. To examine the contribution of each dimension and indicator to MPI.

METHODOLOGY

Data Source

The study used 360 household field survey data. The primary data is household-level information, collected from twelve villages in two hill districts of Manipur. We selected four villages - Sagongbam, Kavanam, Bailangpou, and Lairouching—from the rural areas of the Senapati district. From the Churachandpur district's rural regions, we chose Upper Kom, Lower Kom, Thenjang, and Kha Aimol as our villages. We selected two colonies, Council and Viewland, from the urban regions of Senapati district, and Songgel and Kholmun villages from Churachandpur's urban areas.

Computation of Multidimensional Poverty Index

We adopt the method of calculating MPI used by NITI Aayog (2021, 2023) and the choice of dimension, indicators, threshold, and weight

assigned to each indicator, as shown in Table 1. It is an AF model with slight modifications with respect to weights and indicators. It consists of calculating MPI in two steps:

Step 1: Every household is appraised based on its achievement to determine that it is below the deprivation cut-off in each indicator. The indicator will assign a score of 1 to households below the deprivation cut-off, indicating poverty, and 0 to those above the cut-off, indicating non-poverty.

Step 2: The deprivation of each household is weighted by the indicators. The household is considered poor in multiple dimensions if the total weighted deprivation score equals or exceeds 33 %.

The multidimensional poverty index is the product of two subpart indexes: (1) Headcount ratio represented by H , and (2) intensity of poverty represented by I .

Headcount ratio H is the percentage of people who are multidimensionally poor in the total population. H is expressed as:

$$H = \frac{m}{n}$$

In the equation, " n " represents the total population, and " m " is the sum of all multidimensionally poor individuals. The second component index, intensity of poverty, measures the average percentage of deprivation faced by multidimensionally poor individuals. It is given as:

$$I = \frac{1}{m} \sum_{i=1}^m c_i(k)$$

where m is the number of multidimensionally poor people and $c_i(k)$ is the deprivation score for i^{th} household.

The index of multidimensional poverty M is expressed as:

$$M = H \times I$$

One can proceed further and calculate the contribution of an indicator to the MPI. The indicator's contribution to MPI is the ratio of censored headcount ratio weighted for each indicator divided by MPI value.

Table 1: Dimensions, Indicators and weights of Multidimensional poverty in hill districts of Manipur

Dimension	Indicators	Deprived if	Weight
Health	Nutrition	A child under 59 months, a woman between 15–49 years of age, or a man between 15–54 years is undernourished.	1/6
	Child-Adolescent Mortality	A child or adolescent under 18 years of age in the household has died in the five years before the survey.	1/12
	Maternal Health	If a woman in the household gave birth within the last five years but either didn't get four prenatal care visits or didn't have the support of qualified medical professionals during her most recent delivery.	1/12
Education	Years of Schooling	Not even one household member, aged 10 years or over, has six years of schooling.	1/6
	School Attendance	School-aged children who do not attend school until class 8 completion.	1/6
Living Standard	Cooking fuel	Charcoal, wood, or coal are the primary cooking fuels in the household.	1/21
	Sanitation	The sanitation facility of the household is poor, or it is shared with other houses.	1/21
	Drinking water	There is either no access to clean water for drinking or the nearest source is more than 30 minutes away, both ways.	1/21
	Electricity	The household does not have access to electricity.	1/21
	Housing	Inadequate housing is present in the home, with materials such as natural flooring or very basic roofing and wall structure.	1/21
	Assets	No vehicle, truck, computer, television, telephone, animal cart, bicycle, motorbike, or refrigerator is owned by the household.	1/21
	Bank Account	No family member has a bank or post office account.	1/21

Source: NITI Aayog's National Multidimensional poverty index: Baseline report 2021, and National Multidimensional poverty index: A Progress Review 2023.

RESULTS AND DISCUSSION

The results of the headcount ratio, incidence, and intensity in the hill districts of Manipur are displayed in Table 2. Primary data poverty estimates show a multidimensional headcount ratio (H) of 0.328, indicating 32.8% of the population is multidimensional poor. Further, it is shown that, on average, the poor are deprived in 43.3 % of the weighted indicators. The MPI value of 0.142 indicates that the poor people in the hill districts of Manipur experience 14.2% deprivation, compared to the maximum potential deprivation. The study finding on incidence, intensity and MPI value of hill districts of Manipur are far greater than the state average, which is 8.10 %, 41.91% and 0.034, respectively, for 2019 (NITI Aayog's Progress Review 2023). However, the head count ratio figure is comparatively lower than the finding of Solomon (2024), which is 35.41 %, a case study on multidimensional rural poverty in the Senapati district. Moreover, our empirical finding closely matches the finding of the Devi (2024) based on a study on urban areas, which is 31.32 % head count ratio, 41.58 % intensity and 13.3 % of MPI value.

The Multidimensional Poverty Index portrays the proportion of the multidimensionally poor population after adjusting for the deprivation level that people experience. This adjustment has significance as a headcount ratio would only indicate that 32.8% of the population lives in poverty. However, not every poor is equally poor and is not deprived of all deprivation. On average, a poor individual experience the effects of deprivation at an intensity level of 43.3% across all weighted variables.

Urban areas outperformed rural areas with respect to headcount ratio, intensity, and MPI value. Rural areas had 33.30% multidimensional poverty, whereas urban areas had 31.81%. Regarding the intensity of poverty, around 41.72 % of the poor people in urban areas are estimated to be deprived of the weighted indicators. However, in rural regions, this percentage represents 44.10 % of the poor population. The MPI value is 0.133 in urban areas and 0.147 in rural areas. The study shows that, compared to their urban counterparts, the rural poor are far worse off in every aspect. These findings from the study for both rural and urban

Table 2: Multidimensional poverty in hill districts of Manipur

	Headcount ratio (H)	Intensity (I)	MPI (H x I)
Total sample	0.328	0.433	0.142
Rural	0.333	0.441	0.147
Urban	0.318	0.417	0.133

Source: Authors' computation based primary household survey data.

Table 3: Contribution of dimensions and indicators to hill districts of Manipur MPI score

Dimensions	Indicators	Uncensored Headcount Ratio	Censored Headcount Ratio	Percentage Contribution by Indicator to MPI	Percentage contribution by Dimensions
Health	Nutrition	31.39	24.72	27.27	35.70
	Child and Adolescent Mortality	1.94	1.67	0.92	
	Maternal Health	15.83	13.61	7.51	
Education	Years of Schooling	16.11	16.11	17.77	29.11
	School Attendance	10.56	10.28	11.34	
Standard of Living	Cooking Fuel	43.61	25.56	8.06	35.19
	Sanitation	2.78	2.78	0.88	
	Electricity	0.00	0	0.00	
	Drinking Water	27.22	17.22	5.43	
	Housing	64.72	32.50	10.24	
	Assets	65.28	33.33	10.50	
	Bank Account	0.28	0.28	0.09	

Source: Authors' computation based on primary household survey data.

areas on head count ratio, intensity and MPI value surpass the state average (NITI Aayog's Progress Review 2023).

The uncensored, censored headcount ratio and decomposition by dimension are significant for determining the percentage of the poor population in each indicator and the proportion of multidimensionally poor people and deprived in that indicator. The indicators and dimensions contributing to the total MPI value can also be captured this way. In table 3, the uncensored headcount ratio for the hill districts of Manipur is shown in Column 3. Uncensored headcount ratio statistics reveal the highest deprivation in assets (65.28%), followed by housing (64.72%), cooking fuel (42.61%), nutrition (31.39%), and years in education (16.11%). The censored headcount ratio shows comparable deprivation to the uncensored. The nutrition indicator accounts for 27.27% of the total MPI score, making it the most significant contributor. Year of schooling (17.77%), school attendance (11.34%), assets (10.50%), and housing

(10.24%) contribute the most to MPI. Dimension-wise, the MPI value of Manipur hill districts are shown in Column 5, with health accounting for the most significant portion of MPI, at 35.70 %. It indicates the inadequate healthcare infrastructure in the areas under study. The living standard's dimensions add proportionately to the weight given it. The education dimension contributes less than its weight of 29.11 percent, which shows relatively mild deprivation across the board.

CONCLUSION

The present multidimensional poverty study is based on India's National Multidimensional Poverty Index, 2021 & 2023, which used the counting method of Alkire and Foster (2008) to estimate multidimensional poverty. The study revealed that 32.8% of the population experiences multidimensional poverty. The intensity shows that 43.3% of the weighted indicators point to deprivation for the average poor person. The overall MPI value of 0.142 indicates that, on average,

14.2% of all deprivations were experienced by a poor person. The MPI value, the degree of poverty, and the degree of poverty are all noticeably higher in rural than urban areas. The most significant contributor to the MPI was nutrition, followed by years of education, attendance at school, and assets. Corroborating prior findings from the NITI Aayog report, the results demonstrate that multidimensional poverty is prevalent and severe in the study region.

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