



# THE MULTIDIMENSIONAL POVERTY IN THE NORTH EASTERN STATES OF INDIA

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## ABSTRACT

*The Multidimensional Poverty Index (MPI) applies the direct method of measuring poverty using the Alkire and Foster (AF) approach. The study aims at analyzing the comparative study and trends of the multi-dimensional poverty among the north eastern states of India. The MPI value was continuing to be higher in Assam and Meghalaya over the decade (2005-06 to 2015-16). Vulnerability to poverty was estimated to be lower in Mizoram over the decade as compared to all India level. On the other hand, severity of poverty was higher in two states, Assam and Meghalaya as compared to the all India estimate (8.8%) between 2005-06 and 2015-16. It can be concluded Assam, a gateway to north east India, remains as multidimensionality poor as compared to all states of NE India. Vulnerability and severity of poverty are higher in Assam over the decades among the NE States. Thus, it is recommended for pro-poor strategy for Assam in health, education and standard of living to come out of multidimensional poverty.*

**KEYWORDS:** MPI, Assam, North East India, Vulnerability of poverty, severity of poverty

## 1. INTRODUCTION

In general, there are two methods of measuring poverty. The first is the direct method that shows whether people satisfy a set of specified basic needs, rights, or functioning[1]. The second is the indirect or income approach that determines whether incomes of the people fall below the poverty line (the income level at which specified basic needs of the people can be satisfied. International poverty comparisons have used income poverty measures since M. Ravallion, G. Datt, & D. Van de Walle (1991)[2]. But in practice, as data were not perfectly comparable, so significant adjustments and assumptions were made. This approach led to the development of the “dollar-a-day” or “extreme” poverty measure of the World Bank. In between 2009 and 2010, the Oxford Poverty and Human Development Initiative in collaboration with the United Nations Development Program’s Human Development Report Office, developed the

Multidimensional Poverty Index (MPI) using the direct method to measure poverty in an internationally comparable way. The first estimate of poverty was published in July 2010 (Alkire & Santos, 2010), and consequently in the UNDP Human Development Report 2010 in the month of November 2010. Thus, the MPI replace the Human Poverty Index (HPI) that was estimated since 1997 proposed by S Anand & A K Sen (1997)[3]. The prime difference between the “dollar-a-day” measure and the MPI is that the first approach applies the direct method whereas the second applies the indirect method. The “dollar-a-day” method identifies those who do not have the income usually required to meet certain needs and the MPI identifies those who actually fail to meet the accepted conventions of minimum needs or functionings. Both these two methods are complements (Alkire and Santos, 2014).



The MPI uses the Adjusted Headcount Ratio or  $M_0$  measure developed by S Alkire and J E Foster (Alkire and Foster, 2011). The MPI applies the  $M_0$  measure to a set of 10 deprivations of three dimensions: health, education, and standard of living related to the Millennium Development Goals (MDGs). Three main data sets are used to compute the MPI. These are Demographic and Health Survey (DHS), the Multiple Indicators Cluster Survey (MICS), and the World Health Survey (WHS). It is because, there is relatively greater homogeneity and comparability in these data that follows standardized guidelines.

## 2. OBJECTIVE

The study is planned to analyse the development of MPI, Its concept, dimensions, and indicators. Attempts have been made to examine the comparative study and trends of the multi-dimensional poverty in the north eastern states of India.

## 3. DATA AND METHODOLOGY

The global Multidimensional Poverty Index (MPI), an index of acute multidimensional poverty, was created using the multidimensional measurement method developed by S Alkire and J E Foster (AF). The MPI has three dimensions with 10 indicators. Each dimension is equally weighted. Similarly each indicator within a dimension is also equally weighted. Any person who fails to meet the deprivation cutoff is identified as deprived in that indicator.

The multidimensional poverty index in India from 2005/6 to 2015/16 was estimated using data from third and fourth rounds of the NFHS-3 and NFHS-4 surveys respectively (Alkire, Oldiges, and Kanagaratnam, 2018).

In the global MPI, a person is said to be MPI poor or multidimensionally poor, if he/she is deprived in at least one third of the weighted MPI indicators or the person's weighted deprivation score is equal to or higher than the poverty cutoff of 33.33%. The MPI is calculated by multiplying the incidence of poverty (H) and the average intensity of poverty (A). Here, H is the percentage of multidimensionally poor people or headcount ratio, while A is the average proportion of dimensions or weighted indicators in which poor people are deprived. Thus the MPI indicates both the share of people in poverty and the degree to which they are deprived (OPHI, 2017; OPHI, 2019).

## 4. DISCUSSION AND FINDINGS

The Sustainable Development Goals, set in 2015 by the United Nations General Assembly, are a collection of 17 global goals designed for a "blueprint to achieve a better and more sustainable future for all". It is intended to be achieved by the year 2030. The global MPI is related to the seven SDGs: No Poverty (SDG 1), Zero Hunger (SDG 2), Health & Well-being (SDG 3), Quality Education (SDG 4), Clean Water & Sanitation (SDG 6), Affordable & Clean Energy (SDG 7), Sustainable Cities & Communities (SDG 11). The MPI has three dimensions: Health, Education and Living Standards. The dimension 'Health' consists of two indicators Nutrition, and Child mortality. The dimension 'Education' comprised two indicators Years of schooling and School attendance. The third The dimension 'Living Standards' has six indicators: Cooking fuel, Sanitation, Drinking water, Electricity, Housing and Assets. The Weight of each indicator of first and second dimension is 1/6, whereas that of third indicator is 1/18 (OPHI, 2019).

Table 1 shows the multi-dimensional poverty index (MPI) in North Eastern States of India in 2005-06. The MPI value was highest in Assam (0.316) followed by Meghalaya (0.307) exceeding the all India level (0.283) and lowest in Mizoram (0.094). Inequality among the MPI Poor is high in Meghalaya (0.248) followed by Arunachal Pradesh (0.237) overcoming the all India level of inequality (0.234) (Konwar, 2018).

If a person is deprived in 20-33.3% of the weighted indicators they are considered 'Vulnerable to Poverty', and if they are deprived in 50% or more (i.e.  $k=50\%$ ), they are identified as being in 'Severe Poverty' (OPHI, 2017). It is evident from the table 1 that vulnerability to poverty ( $k = 20\% - 33.3\%$ ) was estimated to be higher in all North Eastern States of India except Arunachal Pradesh (15.3%), Meghalaya (15.4%) and Mizoram (16.0%) as compared to all India level (16.4%). On the Other hand, severity of poverty ( $k \geq 50\%$ ) was higher in three states of N E India, namely, Arunachal Pradesh (28.9%), Assam (32.5%), and Meghalaya (33.9%) as compared to the all India estimate (28.6%).

**Table 1. Multidimensional Poverty in NE India in 2005-06**

Region	MPI (H x A)	H (Incidence) k ≥ 33.3%	A (Intensity)	Vulnerable to Poverty k = 20%- 33.3%	Severe Poverty k ≥ 50%	Population Share
<b>India</b>	<b>0.283</b>	<b>53.7%</b>	<b>52.7%</b>	<b>16.4%</b>	<b>28.6%</b>	<b>100%</b>
<b>Urban</b>	<b>0.116</b>	<b>24.6%</b>	<b>47.2%</b>	<b>16.5%</b>	<b>9.6%</b>	<b>30.6%</b>
<b>Rural</b>	<b>0.357</b>	<b>66.6%</b>	<b>53.6%</b>	<b>16.4%</b>	<b>36.9%</b>	<b>69.4%</b>
<b>Arunachal Pradesh</b>	0.274	53.0%	51.7%	15.3%	28.9%	0.1%
<b>Assam</b>	0.316	60.1%	52.6%	18.4%	32.5%	2.7%
<b>Manipur</b>	0.191	40.8%	46.7%	22.8%	15.4%	0.2%
<b>Meghalaya</b>	0.307	56.6%	54.3%	15.4%	33.9%	0.3%
<b>Mizoram</b>	0.094	21.0%	44.7%	16.0%	7.0%	0.1%
<b>Nagaland</b>	0.264	51.7%	51.1%	19.5%	26.2%	0.1%
<b>Sikkim</b>	0.150	31.8%	47.0%	16.5%	12.1%	0.1%
<b>Tripura</b>	0.269	54.6%	49.3%	18.7%	25.5%	0.3%

Source: OPHI, 2014

Table 2 shows the global MPI (Multi-dimensional Poverty Index) in North Eastern States of India in 2015-16. It envisaged that the MPI value was higher in Assam (0.162), followed by Meghalaya (0.146), and Nagaland (0.099), whereas that value was lower in Sikkim (0.099) followed by Mizoram (0.044), Manipur (0.085), and Tripura (0.087). Multi-dimensional Poverty Index values of Assam (0.162), and Meghalaya (0.146) exceeded the figure of all India level (0.123)

It is found that vulnerability to poverty was estimated to be higher in all North Eastern States of India, but lower in Mizoram (12.6%), Nagaland (17.6%), and Sikkim (12.2%) as compared to all India level (19.3%). On the Other hand, severe poverty was higher in two states, such as, Assam (12.2%), and Meghalaya (11.2%) as compared to the all India estimate ((8.8%).

**Table 2. Global MPI (Multi-dimensional Poverty Index) in North Eastern States of India in 2015-16**

Region	MPI (H x A)	H (Incidence) k ≥ 33.3%	A (Intensity)	Vulnerable	Severe Poverty	Population Share
<b>India</b>	<b>0.123</b>	<b>27.9%</b>	<b>43.9%</b>	<b>19.3%</b>	<b>8.8%</b>	<b>100.0%</b>
<b>Urban</b>	<b>0.039</b>	<b>9.2%</b>	<b>42.6%</b>	<b>14.0%</b>	<b>2.4%</b>	<b>32.3%</b>
<b>Rural</b>	<b>0.163</b>	<b>36.8%</b>	<b>44.1%</b>	<b>21.8%</b>	<b>11.8%</b>	<b>67.7%</b>
<b>Arunachal Pradesh</b>	0.108	24.4%	44.2%	20.4%	7.6%	0.1%
<b>Assam</b>	0.162	36.2%	44.7%	20.4%	12.2%	2.5%
<b>Manipur</b>	0.085	21.0%	40.3%	23.7%	3.4%	0.2%
<b>Meghalaya</b>	0.146	32.8%	44.5%	23.5%	11.2%	0.2%
<b>Mizoram</b>	0.044	9.8%	45.2%	12.6%	3.4%	0.1%
<b>Nagaland</b>	0.099	23.7%	41.7%	17.6%	6.3%	0.1%
<b>Sikkim</b>	0.019	4.9%	38.1%	12.2%	0.5%	0.0%
<b>Tripura</b>	0.087	20.3%	42.7%	20.4%	5.3%	0.3%

Source: OPHI, 2019 Note: It is based on DHS year 2015-2016

“India’s pattern of poverty reduction sub-nationally reflect a significant change in trajectory. In contrast to the period 1998/9–2005/6 during which the poorest groups had the slowest reduction of MPI

according to the older MPI specifications, the poorest states and groups had the largest reductions in multidimensional poverty from 2005/6 to 2015/16” (Alkire, Oldiges, and Kanagaratnam, 2018). The



incidence of multidimensional poverty was almost halved over the decade from 2005/06 to 2015/16. The MPI value was reduced from 0.283 in 2005/06 to 0.123 in 2015/16 that is climbing down by 56.53%. On the other hand, the global Multidimensional Poverty Index (MPI) was cut by half for faster progress in health, education and income among the poor. The incidence and intensity of poverty among the northeastern states were falling down that lead to reduction in the MPI value.

## 5. CONCLUSION

The Multidimensional Poverty Index (MPI) uses the direct method of measuring poverty in view of internationally comparison of poverty among the nations of the world. The first estimate of poverty was published 2010 and it replaced the Human Poverty Index (HPI) that was estimated since 1997. The MPI value was higher in Assam (0.316) followed by Meghalaya (0.307) exceeding the all India level (0.283) and lowest in Mizoram (0.094) during 2005-06. But, the MPI value was higher in Assam (0.162), followed by Meghalaya (0.146), and Nagaland (0.099), whereas it was lower in Sikkim (0.099) followed by Mizoram (0.044), Manipur (0.085), and Tripura (0.087) in 2015-16. That is, The MPI value was continuing to be higher in Assam and Meghalaya over the decade (2005-06 to 2015-16).

Vulnerability to poverty was estimated to be lower in Mizoram over the decade as compared to all India level. On the other hand, severity of poverty was higher in two states, Assam and Meghalaya as compared to the all India estimate (8.8%) between 2005-06 and 2015-16. In can be concluded Assam, a gateway to north east India, remains as multidimensionality poor as compared to all states of NE India. Vulnerability and severity of poverty are higher in Assam over the decades among the NE States. Thus, it is recommended for pro-poor strategy for Assam in health, education and standard of living to overcome multidimensional poverty.

## Notes

1. A K Sen (1992) defined Functionings as the beings and doings that a person values and has reason to value. See for details in A K Sen (1992). *Inequality reexamined*. Cambridge: Harvard University Press.
2. For details, see M. Ravallion, G. Datt, & D. Van de Walle (1991). Quantifying absolute poverty in the developing world. *Review of Income and Wealth*, 37(4), 345–361.
3. Refers to S Anand & A K Sen (1997). *Concepts of human development and poverty: A*

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