



# **STRATEGIES, TECHNIQUES, APPLICATIONS AND RESOURCES**

**Dr. Arceloni Neusa Volpato**  
**Dr. B. Balaji**  
**Dr. S. Karthikeyan**  
**Dr. Divya R. Panjwani**



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## **A Comparative Study of Multidimensional Poverty between EAG and Non-EAG States of India**

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### **Abstract**

Poverty has many dimensions beyond a lack of money. This article makes an attempt to analyse the multidimensional poverty for EAG states and compare it to Non-EAG states. The data has been collected from various secondary sources, viz., The Global Multidimensional Poverty Index, 2019, Planning Commission, Census and RBI website. The data reveals that the MPI index of EAG states is 0.168 in 2015-16 and it is significantly higher than Non-EAG states and the national average. However, the reduction in the MPI, incidence and intensity of poverty is higher in EAG states than Non-EAG states in reference period.

It also presents the changes in multidimensional poverty for the states from 2005-06 to 2015-16. The fall in the MPI values in the recent years across states is an indicator of a positive change in the economy. This study also identifies the factors that might have affected multidimensional poverty in the country. The result shows that higher per capita NSDP reduces the incidence and intensity of poverty for the state. So, the article suggests significant governmental efforts to improve educational standards including skill development for increasing per capita NSDP of the state.

**Keywords:** EAG states, Multidimensional poverty, Incidence, Intensity, Headcount ratio, Per capita NSDP.

### **1. Introduction**

Traditionally, poverty is measured by the resources people command. The most common measures of resources are monetary indicators of income or consumption. But, poverty has multiple aspects which cannot be measured by monetary indicators only. Sen argues that poverty should be seen as capability deprivation rather than in the space of income or resources. Capabilities are broadly defined as people's freedom to choose what to be and do. They are at the heart of human development (UNDP, 2019). Like development, poverty is also multidimensional. According to Alkire, poverty is a condition in which people are exposed to multiple disadvantages – actual and potential. "Poverty can mean poor health, inadequate education, low income, precarious housing, difficult or insecure work, political disempowerment, food insecurity, and the scorn of the better off. The components of poverty change across people, time, and context, but multiple domains are involved." (Alkire 2011) The Oxford Poverty & Human Development Initiative (OPHI) and the United Nations Development Programme (UNDP) has developed the Multidimensional Poverty Index (MPI) in 2010. It replaced the previous Human Poverty Index. The index identifies deprivations across the same three dimensions, i.e., health, education and standard of living.

Poverty is measured by unidimensional framework in India. The official estimates of poverty in India is continued to be derived from consumption expenditure data (Mohanty, 2011). The methodology of poverty estimation is based on the recommendations made by expert groups constituted by the Planning Commission from time to time. The methodology as devised by Y K Alagh, in 1979 has been improvised by the Expert Group (Lakdawala) in 1993, the Expert Group (Tendulkar) in 2009 and then by the Expert Group (Rangarajan) in 2014. These all expert groups prefer consumption expenditure rather than income. As per the Tendulkar Committee estimates, 21.9 percent of the Indian population live below the poverty line in 2011-12, while it is 29.5 percent according to the Rangarajan Committee estimates due to difference in methodology (Planning Commission, 2014). Due to inadequacy of reliable poverty measures there is a need of multidimensional poverty estimation in India. According to United Nations report, India's MPI value reduced from 0.283 to 0.123 during the period. The incidence of multidimensional poverty in India has declined from 640 million people to 369 million people during the period between 2005-06 and 2015-16 (UNDP & OPHI, 2019). So, India has recorded the fastest reductions in the MPI index values during the period.

### **2. Method**

The focus of this study is on less developed Empowered Action Group (EAG) States of India. There are 28 states and 8 union territories in India having world's second largest population. Some states of India reduce the achievement as they are more lagged behind the other states on every demographic-economic indicator and their poor performance affects the GDP growth rate of India (Som & Mishra, 2014). In the mid-80s, an analyst Ashish Bose called these states i.e., Bihar, Madhya Pradesh, Rajasthan and Uttar Pradesh by an acronym BIMARU. Later, Odisha was included in this list. This acronym was used to describe the bad state of economy in backward states (Som & Mishra, 2014). Later, on account of the unacceptably high fertility and mortality indicators, the states, i.e., Bihar, Chhattisgarh, Jharkhand, Madhya Pradesh, Odisha, Rajasthan, Uttarakhand, Uttar Pradesh are designated as 'High Focus States' by the Government of India. The Ministry of Health and Family Welfare, India

established Empowered Action Group (EAG) in 2001 to have special focus by monitoring and facilitating the attainment of national health goals on some of these states which are demographically lagging behind (Kumar & Sahu, 2019). EAG states is a group of eight states that receive special development attention from the Government of India.

In this paper, I have analysed the multidimensional poverty for EAG states and compared it to Non-EAG states. Further, the study also identifies the factors that might have impacted multidimensional poverty in the country. It covers the period from 2005-06 to 2015-16. The present research work is entirely based on secondary source of data which is mainly derived from The Global Multidimensional Poverty Index, 2019, Planning Commission, Census and RBI website.

### 3. Results

#### 3.1 Status of Multidimensional Poverty in EAG and Non-EAG States

In the global MPI, a person is identified as MPI poor if they are deprived in at least one third of the weighted MPI indicators. The MPI is calculated by multiplying the incidence of poverty (H) and the average intensity of poverty (A). H is the proportion of the population that is multidimensionally poor, while A is the average proportion of dimensions in which poor people are deprived (OPHI, 2018). Table 1 represents the changes in multidimensional poverty in terms of MPI value and the last two columns display the annualized absolute<sup>1</sup> and annualized relative<sup>2</sup> changes in MPI values. The MPI index of EAG states is 0.168 in 2015-16 and it is significantly higher than Non-EAG states and the national average. In 2005-06, MPI value was the highest in Bihar and the lowest in Uttarakhand among the EAG states. These two states also hold their respective positions in 2015-16 MPI index.

It clearly depicts that the absolute reduction of poverty is substantially higher in EAG states than Non-EAG states while in relative terms, Non-EAG states have decreased poverty faster by more than 6 percent per year. MPI value of Non-EAG states has reduced fast at the rate of 6.67 percent per annum as compared to national average and EAG states. The reduction of poverty in EAG states may have been relatively lower due to the population pressure as 46 percent population of India live in EAG states (Mishra et al., 2015). The MPI value for EAG states has decreased at the rate of 1.83 per annum from 0.351 in 2005-06 to 0.168 in 2015-16. The pace of progress varies considerably across EAG states. Jharkhand has the largest absolute reduction in MPI poverty at 2.21 per annum. Chattisgarh and Bihar are also proved to be strong performers, with reductions above 2 per year. In terms of relative change, it is highest for Uttarakhand (6.04 percent) and lowest for Bihar (4.48 percent).

**Table 1: Multidimensional Poverty Index in EAG and Non-EAG States**

Country / State	MPI Value (2005-06)	MPI Value (2015-16)	Annualized Change	
			Absolute	Relative
<b>India</b>	<b>0.283</b>	<b>0.121</b>	<b>- 01.62</b>	<b>5.72</b>
<b>Non-EAG States</b>	<b>0.198</b>	<b>0.066</b>	<b>- 01.32</b>	<b>6.67</b>
<b>EAG States</b>	<b>0.351</b>	<b>0.168</b>	<b>- 01.83</b>	<b>5.21</b>
Bihar	0.449	0.248	- 02.01	4.48
Chattisgarh	0.355	0.153	- 02.03	5.71
Jharkhand	0.429	0.208	- 02.21	5.15
Madhya Pradesh	0.366	0.182	- 01.84	5.03
Odisha	0.336	0.156	- 01.80	5.37
Rajasthan	0.332	0.145	- 01.87	5.64
Uttar Pradesh	0.361	0.183	- 01.79	4.95
Uttarakhand	0.182	0.072	- 01.10	6.04

Source: Computed from the data provided by Global Multidimensional Poverty Index, 2019.

Multidimensional poverty incidence is larger than national measure in India and in EAG states while the estimation about poverty for Non-EAG states is similar by both sources (Figure 1). The reason may be high socio-economic development of Non-EAG states. It shows MPI trends may diverse from nation measure based on consumption expenditure. It reveals the need of right policy measures which can reduce all forms of poverty. As

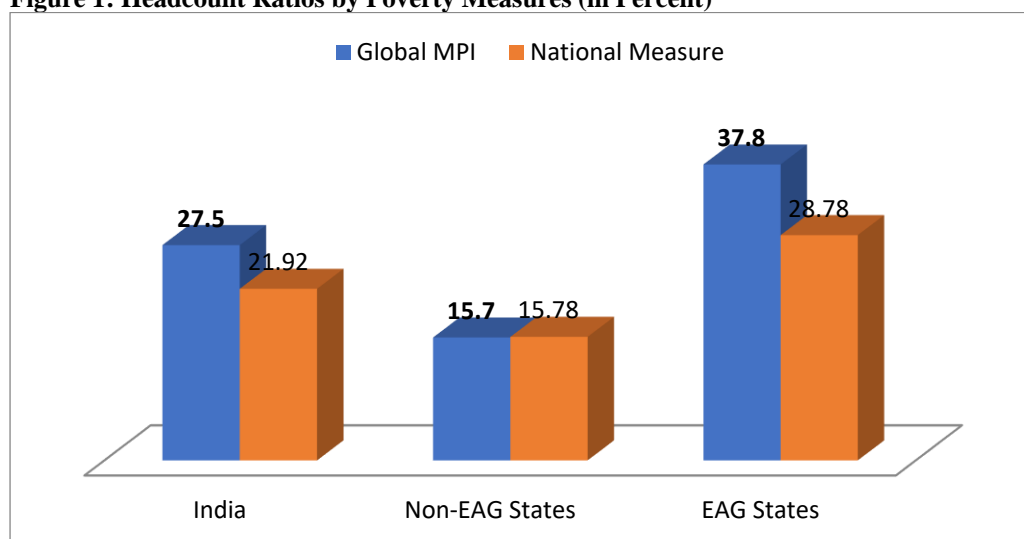
<sup>1</sup> The annualized absolute rate of change is the difference in MPI value between two periods divided by the difference in the two time periods.

<sup>2</sup> The annualized relative rate of change is the compound rate of reduction in MPI value per year between the initial and the final periods.



per the government, 22 percent of the country's population lives below the poverty line while according to Global Multidimensional Poverty Index, 2019, about 28 percent people of India are MPI poor. More than twice population of EAG states is MPI poor as compared to 16 percent of Non-EAG states.

**Figure 1: Headcount Ratios by Poverty Measures (in Percent)**



Source: Computed from Global Multidimensional Poverty Index, 2019 & Planning Commission, 2014.

### 3.2. Changes in Multidimensional Poverty over Time: Incidence and Intensity

When a country reduces incidence of poverty (H) or reduces intensity of poverty (A) among poor people or reduces both in some proportion, a reduction in country's MPI occurs. A reduction in headcount ratio shows a great gain, but persons leaving poverty may still experience some deprivations. So, it is important to reduce both incidence and intensity. Generally, absolute reduction of incidence is greater than that of intensity due to some reasons. First, the natural tendency of intensity might be to rise if incidence decreases of those people who are barely poor and their deprivation score is lower than average intensity among poor. Second, every reduction in intensity means an actual deprivation was reduced (Alkire et al., 2017). Table 2 depicts the same result as reduction of annualized absolute change in incidence (H) in India; Non-EAG and EAG states are more than intensity (A).

The difference in proportion of MPI poor is clearly evident between EAG and Non-EAG states. The proportion of MPI poor in Non-EAG states (15.7 percent) is less than half that of EAG states (37.8 percent). However, EAG states have reduced the proportion of the MPI poor at the rate of 2.78 per annum by 27.9 percentage points from 65.7 percent in 2005-06 to 37.8 percent in 2015-16 which is well above to national average and Non-EAG states. There is also considerable variation in the share of MPI poor and the rate of reduction among EAG states. More than half population of Bihar is MPI poor while it is only 17 percent for Uttarakhand. EAG states have significant changes in the headcount ratio during the period. Chattisgarh declined the proportion of MPI poor at a faster rate as compared to other EAG states, a yearly decrease of 3.32 percentage points. The other top performing states are Rajasthan, Jharkhand, Odisha and Uttar Pradesh registered annualized reductions between 2.8 and 3.02 percentage points.

A reduction in intensity of poverty is more important as it provides an incentive for policymakers to reduce deprivations among the poor. Development of all is need of the hour. There is a positive sign for poverty reduction in EAG states that they have strongly reduced the intensity of multidimensional poverty. The reduction is higher, both in absolute and relative terms, as compared to national average and Non-EAG states. It reflects EAG state's progress towards moving people out of poverty. It is clearly evident that there is not as much difference in intensity of poverty between Non-EAG states and EAG states as in Headcount ratio. Among EAG states, Jharkhand has reduced the highest intensity of multidimensional poverty both in absolute and relative terms. It has reduced from 57.3 percent to 44.7 percent in a ten year period (2006-16), a yearly decrease of 1.26 percentage points. The highest rate of reduction in MPI value of Jharkhand among Indian states is due to mainly a significant decline in intensity of poverty. The other top performing state Bihar registered annualized reduction of 1.08 points in intensity of poverty. The lowest reduction in intensity is found in Uttarakhand.

**Table 2: Comparison between Changes in Annualized Incidence & Intensity of Multidimensional Poverty Index**

India / State	Headcount Ratio (2005-06)	Headcount Ratio (2015-16)	Annualized Change		Intensity of Poverty (2005-06)	Intensity of Poverty (2015-16)	Annualized Change	
			Absolute	Relative			Absolute	Relative
<b>India</b>	<b>53.7</b>	<b>27.5</b>	<b>-2.62</b>	<b>4.88</b>	<b>52.7</b>	<b>43.9</b>	<b>-0.88</b>	<b>1.67</b>
<b>Non-EAG States</b>	<b>41.1</b>	<b>15.7</b>	<b>-2.54</b>	<b>6.18</b>	<b>47.1</b>	<b>41.2</b>	<b>-0.59</b>	<b>1.25</b>
<b>EAG States</b>	<b>65.7</b>	<b>37.8</b>	<b>-2.78</b>	<b>4.23</b>	<b>53</b>	<b>44.1</b>	<b>-0.89</b>	<b>1.68</b>
Bihar	77.4	52.5	-2.49	3.22	58.0	47.2	-1.08	1.86
Chattisgarh	70.0	36.8	-3.32	4.74	50.8	41.5	-0.93	1.84
Jharkhand	74.9	46.5	-2.83	3.78	57.3	44.7	-1.26	2.20
Madhya Pradesh	68.7	41.1	-2.76	4.02	53.2	44.3	-0.90	1.69
Odisha	64.2	35.9	-2.83	4.41	52.3	43.4	-0.90	1.72
Rajasthan	62.2	32.0	-3.02	4.86	53.4	45.3	-0.81	1.52
Uttar Pradesh	68.8	40.8	-2.80	4.07	52.5	44.7	-0.77	1.47
Uttarakhand	39.3	17.3	-2.21	5.61	46.3	41.8	-0.45	0.98

Source: Computed from the data provided by Global Multidimensional Poverty Index, 2019.

### 3.3 Empirical Analysis

EAG states are also economically backward states. NSDP is one of the main factors determining the economic status of a state, but as a real and welfare measure per capita NSDP is more appropriate indicator to compare all the states' economic status whether they are big or small in terms of area or population. So, per capita NSDP can be considered as a key explanatory variable. We expect negative relationship between per capita NSDP and poverty. Social sector expenditure is very important to reduce the headcount ratio and intensity of poverty especially for a developing country like India where the proportion of poor households utilizing government services is higher as compared to the richer households. So, social sector expenditure as a percentage of GSDP is taken as an independent variable. Population growth also influences poverty. Poverty can be seen more in those states where population growth is higher than other states. Rapid population growth is the greatest obstacle to economic growth. So, decadal growth rate of population is also used as an explanatory variable in regression models.

In view of the above, we have constructed a regression model in order to verify the relative influence of per capita NSDP, social sector spending and population growth rate on MPI in the Indian states. However, MPI value of a state is always between 0 and 1. The linear functional form is not appropriate for the MPI, as the predicted value of the dependent variable from a linear regression model would not necessarily be confined between 0 and 1 (Goswami & Bezbaruah, 2011). As MPI is calculated by multiplying the incidence of poverty and the average intensity of poverty, we have regressed the headcount ratio and intensity of poverty for Indian states in 2015-16 on the basis of the per capita NSDP of 2015-16, social sector expenditure as a percentage of GSDP incurred during the year 2015-16 and the decadal growth rate of population (2001-11).

The result of the regression analysis stated in Table 5 shows that per capita NSDP has a highly significant and negative coefficient while the coefficients of social sector expenditure and population growth rate are statistically insignificant in Model 1. This implies that there is a probability of lower headcount ratio for the state having higher per capita NSDP. The result supports various studies that economic development affects the incidence of poverty. According to Model 2, intensity of poverty depends on per capita NSDP and population growth rate. Negative coefficient of per capita NSDP denotes that high per capita NSDP reduces the intensity of poverty. The effect of population growth rate on intensity of poverty is strong and positive. This indicates that the states having higher population growth rate are more likely to suffer from intensity of poverty. Every one percent rise in population growth rate would increase the intensity of poverty by 0.17 percent for all states, holding the other independent variables constant. Social sector expenditure is not significant for both models. However, the *f* statistics are significant at a 1 percent level of significance for both. This implies that per capita NSDP, population growth rate and social sector expenditure are jointly significant.

These results indicate that public expenditure on the social sectors has not played its due role in reducing multidimensional poverty in the country. The following could be the reasons as to why the influence of social sector expenditures on multidimensional poverty in India has been insignificant. Firstly, the size of the social expenditure may be insufficient. It is proved that in terms of GDP, social sector expenditure of India is lower than other G20 countries. In India, it is about 8 percent in contrast to about 20 percent in developed economies (Mate, et al., 2018). Secondly, the expenditures that have been made may not have been quite effective in improving the healthcare and educational attainments of the masses in all the states as development of social sector depends on expenditures and effective implementation. In other words, the delivery of the social services may not have been satisfactory.

**Table 3: Estimated Regression Equations for State-level Determinants of Headcount Ratio & Intensity of Poverty**

Determining Factors	Model (1) Headcount Ratio	Model (2) Intensity of Poverty
Constant	33.949 (3.68)***	40.436 (22.2)***
Per Capita NSDP	-0.00014 (-4.58)***	-0.000016 (-2.68)**
SSE / GSDP	-0.361 (-0.69)	0.041 (0.40)
Decadal Growth Rate of Population	0.468 (1.58)	0.176 (3.02)***
R-squared	0.5823	0.5561
Adjusted R-squared	0.5321	0.5028
F-Statistics	11.62***	10.44***

Note: The values in the parenthesis are t-values. \*\*\* indicates 1 percent and \*\* indicates 5 percent level of significance.

Source of variable SSE/GDP (2015-16 data) is State Finances: A Study of Budgets, Population growth rate (2011 data) is Census and Per Capita NSDP (2015-16 data) is RBI website and Global Multidimensional Poverty Index, 2019.

#### 4. Discussion

The study clearly reveals that the multidimensionally poor are mostly concentrated in low income states, i.e., EAG states. However, EAG states have reduced the proportion of the MPI poor at the rate of 2.78 per annum from 65.7 percent in 2005-06 to 37.8 percent in 2015-16. A positive sign for poverty reduction also can be found in EAG states that they have strongly reduced the intensity of multidimensional poverty. The reduction is higher, both in absolute and relative terms, as compared to national average and Non-EAG states. It reflects EAG states' progress towards moving people out of poverty.

Poverty can be reduced by empowering the poor with human capital and creating productive employment opportunities in these states. So, significant efforts are required to improve educational standards including skill development and health standards of the people which can indirectly increase the per capita income of the state. The regression analysis also identifies per capita NSDP as an important factor affecting the incidence and intensity of poverty.

#### References

- Alkire, Sabina (2011): "The Capability Approach and Human Development," Oxford Poverty and Human Development Initiative, Working Paper No 46.
- Alkire, S., J. M. Roche & A. Vaz, (2017), "Changes Over Time in Multidimensional Poverty: Methodology and Results for 34 Countries", *World Development*, Vol. 94, pp. 232-249.
- Goswami, B. & M. P. Bezbaruah, (2011), 'Social Sector Expenditures and Their Impact on Human Development: The Indian Experience' *Indian Journal of Human Development*, 5(2), pp. 365-379.
- Kumar, S. & D. Sahu, (2019), "Socio-economic, Demographic and Environmental Factors Effects on Under-Five Mortality in Empowered Action Group States of India: An Evidence from NFHS-4", *Public Health Research*, Vol.9, No.2, pp. 23-29.
- Mate, K., K. Singh, B. Seth, I. Manna, N. Kumar, P. S. Rawat & S. Misra, (2018), "States' Social Sector Spending and Sustainable Development Goals", *Reserve Bank of India Occasional Papers*, Vol. 39, No. 1&2, pp. 129-172.
- Mishra, S., C. Pandey, Y. Chaubey & U. Singh, (2015), "Determinants of Child Malnutrition in Empowered Action Group (EAG) States of India", *Statistics and Applications*, Vol.13, No.1&2, pp. 1-9.
- Mohanty, S. K., (2011), "Multidimensional Poverty and Child Survival in India, *PLoS ONE*, Vol. 6, No. 10, e26857.

OPHI, (2018), *Global MPI Country Briefing 2018: India (South Asia)*, Oxford Poverty and Human Development Initiative.

Planning Commission, (2014), *Report on the Expert Group to Review the Methodology for Measurement of Poverty*, New Delhi, Government of India.

Reserve Bank of India, (2016), *State Finances: A Study of budgets of 2015-16*, Mumbai.

Som, K. S. & R. P. Mishra, (2014), "BIMARU States: Need a Rethinking", *Journal of Humanities and Social Science*, Vol. 19, No.7, pp. 34-41.

UNDP & OPHI, (2019), *Global Multidimensional Poverty Index 2019: Illuminating Inequalities*, United Nations Development Programme & Oxford Poverty & Human Development Initiative, USA.

UNDP, (2019), *Human Development Report, Beyond Income, Beyond Averages, Beyond Today: Inequalities in Human Development in the 21<sup>st</sup> Century*, United Nations Development Programme, New York, USA.