Multidimensional Poverty in India

A Thesis

submitted to

Indian Institute of Science Education and Research Pune in partial fulfilment of the requirements for the

BS-MS Dual Degree Programme

by

Kaustubh Mishra

Indian Institute of Science Education and Research Pune
Dr. Homi Bhabha Road,
Pashan, Pune 411008, INDIA.

April, 2022

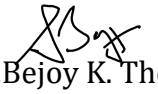
Supervisor: Dr.Bejoy K. Thomas

c Kaustubh Mishra 2022

All rights reserved

Certificate

This is to certify that this dissertation entitled Multidimensional Poverty Index of India towards the partial fulfilment of the BS-MS dual degree programme at the Indian Institute of Science Education and Research, Pune represents study/work carried out by Kaustubh Mishra at Indian Institute of Science Education and Research under the supervision of Dr.Bejoy K. Thomas, Associate Professor, Department of Humanities and Social Science, during the academic year 2021-2022.



Dr.Bejoy K. Thomas

Committee:

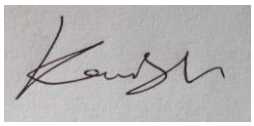
Dr.Bejoy K. Thomas

Dr. Soumyajit Bhar

This thesis is dedicated to my family and my sisters.

Declaration

I hereby declare that the matter embodied in the report entitled Multidimensional Poverty Index of India are the results of the work carried out by me at the Department of Humanities and Social Science, Indian Institute of Science Education and Research, Pune, under the supervision of Dr.Bejoy K. Thomas and the same has not been submitted elsewhere for any other degree.



Kaustubh Mishra

Acknowledgments

I would like to express my sincere gratitude to my MS Thesis supervisor Dr. Bejoy K Thomas for his constant guidance and motivation. I am grateful for the opportunity and the trust he put in me as well as the immense patience and creative freedom he offered me throughout the year. I would like to thank my MS Thesis expert Dr. Souymajit Bhar for being kind enough to resolve my doubts and provide insights and expertise that helped immensely in formulating my thesis. I would also like to extend my thank you to the Indian Institute of Science Education and Research, Pune, and the Humanities and Social Sciences Department, IISER Pune for all the help and resources provided, even during the challenging times of the Covid 19 pandemic. Finally, I would like to thank my family, especially my sibling Ms. Shubhangi Mishra for keeping me motivated and supporting me. I would also like to thank Chirag Gupta and Swarnavo Basu for making this journey memorable.

Abstract

This study estimates the Multidimensional Poverty Index (MPI) of India and the MPI of 6 Zonal councils of India using the data set India Human Development Survey(IHDS-2), spanning all states and union territories of India except Andaman and Nicobar Islands and Lakshadweep. The results are then compared with India's first–ever National MPI report and the United Nations Development Programme (UNDP) Global MPI report.

The methodology used to calculate the MPI is the Alkire -Foster Dual cutoff counting method. It involves 10 indicators grouped among 3 indicators, Health, Education, and Standard of Living. Each dimension is weighted equally at $\frac{1}{3}$ of the MPI. MPI can provide a different perspective to the policymakers and highlight the poor individuals that were missed by the unidimensional monetary poverty indexes.

The results indicate India has an MPI score of 0.136 with 30.6% of the population being multidimensional poor . Among the Zonal Councils of India, the Central Zonal Councils had the highest MPI score at 0.21 and the highest headcount ratio at 46.41% among India's zonal councils. The Southern zonal council had the lowest MPI score at 0.55 and the lowest proportion of the poor population with only 14.06% of the population being multidimensional poor. The results and analyses in this study hope to provide policymakers with a comprehensive view of poverty to help them draft policies that reduce multidimensional poverty across India.

Contents

Abstract ..... **xi**

Background **1**

Data and Method **3**

2.1 Data 3

2.2 Method 4

2.3 Dimensions and Indicators 7

Result **19**

3.1 Multidimensional Poor in India 19

3.2 MPI of Zonal councils of India 24

Discussion and Conclusion **34**

4.1 Discussion 34

4.2 Concluding Remarks 37

Appendix **38**

5.1 Variables Glossary 39

5.2 Data Files 40

Chapter 1

Background

Researchers and policymakers alike are enthusiastic about the fight against poverty. However, there has always been a dispute on what poverty is and how it should be assessed. From a conceptual standpoint, several approaches to defining poverty have been presented. Poverty is often viewed as a lack of resources, whether in terms of income, consumer expenditures, or a scarcity of vital items. Other methods place poverty in the utility area, while others insist on meeting fundamental necessities. The most traditional and direct technique to measure poverty that dominated the first 40 years of development studies (1950-90) is the Monetary Poverty Measurement, which examines household income or consumption expenditure to define a household as poor or not based on whether it is below or over a specified cutoff. For example, The International Poverty Line last updated in 2015 by World Bank defines people living on less than $1.90 a day as extremely poor, The National Poverty Line 2011-2012 last released by the Planning Commission of India estimated the cutoff at Rs. 816 per capita per month for rural areas and Rs. 1000 per capita per month for urban areas. (Gaur & Rao, 2020). Although it captures a household's ability to meet critical basic needs in food, shelter, clothing, and other goods, this approach to measuring poverty is uni-dimensional, and measures involving simple headcount ratio lack the information on the depth of poverty and so it might happen that extent of poverty recorded might decrease but the poorest population might get left behind (NITI Aayog; OPHI, 2022). The monetary approach also fails to recognize the deprivations that people face in non-monetary aspects of their life, be it health, education, assets, lack of basic infrastructures such as clean water, or even psychological issues such as powerlessness, shame, and humiliation.

A paradigm shift happened in 1990 which popularized the evolution of measuring human development, and in 2010 Alkire and Santos (Alkire & Santos, Acute multidimensional poverty: A new index for developing countries, 2010) in collaboration with United Nations Development Programme (UNDP) for the first time introduced the Multidimensional

Poverty Index (MPI) based on Alkire-Foster counting method. (Alkire & Foster, Counting and multidimensional poverty measurement, 2011) It replaced the previous measure Human Poverty Index (HPI), and has been used since then in every UNDP report. It incorporates several aspects of poverty across the dimensions of health, education, and living standards, and investigates the fundamental features that influence the poor, drawing on the capability approach. MPI is concerned not just with the headcount ratio of multidimensional poor individuals, but also with the depth of poverty. It can act as a complement to various monetary indices to provide a more accurate understanding of poverty. It can provide a legitimate and comprehensive view of poor households. The new vision that MPI brings can highlight a different segment of the poor that could remain undetected through the lens of monetary measures. Like in Chile where the monetary poverty index highlighted 14.4% of the population as poor and MPI highlighted 20.4% of the population as poor but only 5.5% of poor people were common among both measures. (Alkire, Multidimensional poverty measures as relevant policy tools (OPHI Working Paper 118), 2018) The flexibility of MPI to select indicators and set achievement level and deprivation cutoff for each indicator makes it a participatory process. It gives local people the opportunity to work along with professionals and experts to define the indicators of MPI, set weights, and deprivation cutoffs that represent the best fit for poverty in their regional and cultural sphere. The MPI can also act as a crucial player in the budget allocation of a country. The indicators and dimensions in MPI can provide the priority sectors and targeted indicators to focus on while allocating the budget to alleviate poverty. It can also provide the policymakers with statistics and information on the performance of their region in tackling poverty. This can lead to a more targeted policy that can be realized at ground level. It also provides a thorough insight into cross dimensions of poverty and promotes cross-sectoral strategies that address the complex issues. The Index also provides policy-relevant information on each of the indicators by deconstructing each indicator for sectoral focus and clarifying cross-sectoral overlaps shown by multiple deprivations.

Chapter 2

Data and Method

2.1 Data

The data used is the India Human Development Survey-2 (IHDS-2), 2011-2012. It was jointly conducted by researchers from the University of Maryland and the National Council of Applied Economic Research (NCAER), New Delhi. It is a multi-topic panel survey of 42,152 households spanning 384 districts, 1420 villages, and 1042 urban areas in India. It covers all Indian states and Union Territories except Andaman Nicobar Islands and Lakshadweep. (IHDS, 2012) The IHDS-2 survey has the benefit of providing a breadth of topics and comprehensive information on measures like Health, Education, and Standard of Living that are used for estimating the Multidimensional Poverty Index. From the sample survey of 42,152 households, we were able to retain 77% of the data resulting in 32,490 sample households across India. The rest of the data was either incomplete or inconsistent and could not be used for computing MPI.

2.2 Method

The methodology used is the Alkire Foster dual-cutoff counting method (Alkire & Foster, Counting and multidimensional poverty measurement, 2011) It is a very flexible method where the user has the liberty to tune the framework to best fit the phenomenon. They have to select the measure's purpose, space, unit of analysis, dimensions, deprivation cutoff, weights, and poverty cutoff (OPHI, 2022). It broadly involves 2 steps

- Identification
- Aggregation

2.2.1 Identification

Identification requires selecting the set of indicators to compute MPI and classify them into appropriate dimensions. Data must be present for each individual for every indicator. Assigning weights to each indicator such that the sum of weights across all indicators adds up to 1. A deprivation cutoff needs to be selected for each indicator that judges the level of accomplishment for each person and decides if they should be considered deprived in that indicator. Next, the weighted sum of all deprivation across all indicators gives us the total deprivation score of the individual/household. Finally, the second-order cutoff is applied, which is the fraction of weighted deprivations that a person must suffer in order to be classified as multidimensionally poor. Here the second cutoff is set at 33% which is aligned with the Global Multidimensional Poverty Index.

2.2.2 Aggregation

To calculate the MPI value we need to calculate the head count ratio and Intensity of Poverty. The headcount ratio (*H*) is the proportion of the population that is multidimensionally poor. It is calculated by

$$H = \frac{q}{N}$$

q is the total count of the multidimensionally poor people.

N is the total population.

The Intensity of Poverty (*A*) is the average proportion of the weighted component indicators in which multidimensionally poor people are deprived. It answers the key question, How poor are the poor? It is calculated by

$$A = \frac{\sum_{i=1}^{q} s_i}{q}$$

s_i is the deprivation score that the *i*th multidimensionally poor person experiences.

The Multidimensional Poverty Index (*MPI*) is the product of the Headcount ratio (*H*) and Intensity of Poverty (*A*). It is essentially the proportion of multidimensional poor adjusted by the intensity of poverty.

$$MPI = H \times A$$

The AF method has a number of technical and practical advantages that make it suitable for non-monetary poverty measurement. It achieves numerous technical milestones connected with poverty measures, including dimensional monotonicity, subgroup decomposability, scale and replication invariance, poverty and deprivation emphasis, and symmetry. (OPHI, 2022) The AF methodology's ability to give an understanding of not just the degree of poverty, but also its composition and distribution, makes it a valuable decision-making tool. (OPHI, 2022). On the practical front, it is an intuitive counting method and its flexibility to use binary data means it can be integrated into current data systems like IHDS-2 without the requirement for specific modules in surveys that are concerned with estimating multidimensional poverty. One of the key advantages of AF methodology is that it allows the decomposition of MPI to calculate the estimates such as Censored Headcount ratio, Uncensored Headcount ratio, and contribution of each dimension or indicator in MPI.

The Censored Headcount ratio is defined as the proportion of individuals who are deprived in a given indicator irrespective of whether they are multidimensional poor or not

$$h_j(k) = \frac{1}{N}\sum_{i=1}^{N} g_{ij}^0(k) \times 100$$

$g_{ij}^0(k)$ represents the censored deprivation score of individual *i* in indicator *j* using a second-order cutoff *k* of 33.3%.

The Uncensored Headcount ratio is defined as the share of multidimensional poor deprived in the given indicator in the total population.

$$h_j = \frac{1}{N}\sum_{i=1}^{N} g_{ij}^0 \times 100$$

g_{ij}^0 represents the sum of deprivation status up to *i*th individual for indicator *j*

The contribution of each dimension to the MPI can be calculated as

$$contrib_d = \frac{\sum_{j \in d} w_j h_j(k)}{N} / MPI$$

d represents the dimensions.

The contribution of each indicator to the MPI is then calculated by

$$contrib_i = \frac{w_i h_i(k)}{MPI} \times 100$$

The contribution of a zone *i* to the MPI can be calculated as

$$\text{Contribution of zone i to the MPI} = \frac{n_i}{N}\frac{MPI_i}{MPI} \times 100$$

MPI_i represents the MPI of the zone *i* n_i is the population of *i*th zone.

2.3 Dimensions and Indicators

The dimensions and indicators to calculate MPI here are aligned to the UNDP Global Multidimensional Poverty Index (UNDP, 2022). It has 3 dimensions and 10 indicators are distributed among them. Each dimension has an equal weight i.e. 33.3% and among each dimension, the indicators share the equal weight. The description is highlighted in Table 2.3.1. The dimensions and indicators are selected such that they are as close to the UNDP Global MPI dimensions and indicators as possible. Although different data sets come up with their limitations and IHDS-2 is no exception to it. Necessary edits have been made at those exceptional cases.

Dimension	Weight	Indicator	Deprived if
Health	16.67%	Health	Atleast one woman in the household has a Body Mass Index (BMI) less than 18.5kg/m2 .
	16.67%	Child Mortality	There is a death of a child under the age of 18.
Education	16.67%	Years of Schooling	None of the household members have completed the education till class 6.
	16.67%	School Attendance	Any child of age between 10-14 years in the household is not attending the school.
Standard of Living	5.56%	Electricity	The household has no electricity
	5.56%	Sanitation	The household doesn't have a flush toilet, latrine or ventilated improved pit.
	5.56%	Drinking Water	The household doesn't have an improved source of drinking water (i.e. Piped, Tube well, Hand pump, Covered well and Rainwater) or it doesn't have the water source within a 30 minute walking distance, roundtrip.
	5.56%	Housing	Any of the floor, roof or walls of house is made of kutcha materials.
	5.56%	Cooking Fuel	The household doesn't use LPG for either cooking, heating or lighting.
	5.56%	Assets	The household does not own a car or truck and does not own more than one of the following assets: television, telephone, computer, bicycle, motorbike or refrigerator.

Table 2.3.1List of Indicators

2.3.1 Dimension: Health

Health is one of the major contributors to Human Development and Human Capital and is a key enabler in the progression of Development. The weight assigned to this dimension is $\frac{1}{3}$ of the MPI and to capture the essence of this dimension, we have 2 indicators encompassing it. Each of the indicators weighs half of the dimension, hence $\frac{1}{6}$ of the MPI. The indicators are Nutrition and Child Mortality and they fall in alignment with the Global MPI indicators.

Indicator: Nutrition

The household is considered to be deprived if at least one woman in the household has a Body Mass Index (BMI) less than 18.5kg/m^2.

The indicator captures the nutritional achievement of the household. Anthropologically women in the household have been more deprived than any other member of the household and if a single woman is found undernourished in the household then the household is considered to be deprived. The main reason is that nutrition implicitly works on the principle of sharing and collective well-being where an undernourished woman in the household captures the image of the household being not able to meet their minimum nutritional requirements. The UNDP Global MPI achievement was defined as

*(Deprived if): Anyone under the age of 70, as well as any youngster for whom nutritional data is available, is undernourished. If their body mass index (BMI) is less than 18.5 kg/m*2*, adults aged 19–70 years (229–840 months) are* considered *undernourished. Individuals between the ages of 5 and 19 (61–228 months) are deemed undernourished if their age-specific BMI values*

are less than minus two standard deviations from the reference population's median. (UNDP, 2022)

The achievement we defined is different from the UNDP MPI achievement in the way that we considered the BMI of only women in the household rather than all the members of the household. The Anthropometry data in IHDS-2 was available only for women which was the limiting factor. The variables *AP*5 and *AP*6 contained the height (recorded twice) of all the women in households. The mean of these variables is calculated to get the height of the women and similarly *AP*8 and *AP*9contains the weight(recorded twice) of the women in the household. The average of these variables is calculated to get the weight and from these data, BMI is calculated for all women in the household. Next, the first order cutoff is applied where if any of the women in the household has a BMI less than $18.5 kg/m^2$ then the household is considered to be deprived.

Indicator: Child Mortality

The household is considered deprived if there is a death of a child under the age of 18.

The Child Mortality indicator represents an overarching range of deprivation that a household faces, be it lack of healthcare, diseases, malnutrition, and a safe environment to live in. The deprivations due to Child Mortality could also manifest over time and it represents a lost opportunity in Human capital that could have contributed to the development of the household. The achievement defined in this indicator is in correspondence to the UNDP MPI achievement that defines

(Deprived if): In the five years leading up to the poll, any kid under the age of 18 had died. When a survey does not have *information on the date of a child's death, fatalities that happened at any time are considered.* (UNDP, 2022)

The variable *BH8A* in IHDS-2 contains data about the age of the children in the household when they died. The cutoff is set at 18 years so if any child in the household died under the age of 18 the household is considered to be deprived.

2.3.2 Dimension: Education

The Education dimension weighs $\frac{1}{3}$ of the MPI and Years of Schooling and School Attendance represents the dimension each weighing half of the dimension hence $\frac{1}{6}$ of the MPI. The weights and the indicators are aligned to the UNDP Global MPI.

Indicator: Years of Schooling

The household is considered to be deprived if none of the household members has completed the education till class 6.

The indicator represents the collective achievement of the household since a single household member with Education can have a direct impact on the economics of the household. Education opens up opportunities on the economics, employment, and social standard front hence a household will be considered deprived if none of the members of the household has completed Education. The achievement is in correspondence to UNDP MPI which defines their achievement level as

(Deprived if): No household *member of "school entrance age + six years" or older has completed six years of schooling.* (UNDP, 2022)

To get clarity on "school entrance age + six years" we took the six years of Education as Class6. The reasoning is that in India class 6 signifies the standard 6 years of schooling.

A cut-off at 6 is set to the variable *ED*6 in the IHDS-2 data set which contains the information about years of schooling completed by the members of the household. If none of the members of the household clears the cutoff then the household is considered to be deprived.

Indicator: School Attendance

The household is considered to be deprived if any child of age between 10-14 years in the household is not attending school.

School attendance captures the deprivation a household faces to achieve education. A single household child not attending school when he or she must be attending school represents the deprivation at the household level. It keeps them short of attaining educational sustainability and could manifest into future deprivation across other indicators hampering their development. The achievement level of our indicator is similar to that of UNDP Global MPI which defines achievement at School Attendance as

(Deprived if): Any school-aged youngster does not attend school until he or she reaches the age of completion of class 8. (UNDP, 2022)

We defined the range of age of a school child that attends class 8 to be 10-14 years. 10 years is the lower limit to exclude a school-age child who lacks enough years of education may be because of joining the school late.

All the household members between the ages of 10-14 are sorted from the variable *RO*5 and then if one of them doesn't attend the school (variable *ED*5) then the household is considered to be deprived.

2.3.3 Dimension: Standard of Living

The Standard of Living occupies the last remaining $\frac{1}{3}$ weight of the MPI. It measures the basic facilities and access to them for a household. It comprises six equally weighted indicators, hence weighted $\frac{1}{18}$ of the MPI. These indicators measure a household's accessibility to Electricity, Sanitation, Drinking Water, Housing, Cooking Fuel, and Assets. They are aligned to the UNDP Global MPI indicators.

Indicator: Electricity

The household is considered deprived if the household has no electricity.

Electricity is a key service that is a necessity. Deprivation in this indicator has its effect on other dimensions as well and its value can't be ignored. The achievement in this indicator is the same as UNDP Global MPI. Not having access to electricity is considered deprivation.

(Deprived if) : There is no electricity in the house. (UNDP, 2022)

The variable *FU*1 in IHDS-2 contains the information about if a household has electricity or not. So if the household has no electricity then it is considered to be deprived.

Indicator: Sanitation

The household is considered to be deprived if it doesn't have a flush toilet, latrine, or ventilated improved pit.

Exclusive access to improved sanitation facilities is a necessity and achievement in this indicator is set as access to exclusive and improved sanitation like flush toilets, latrines, and ventilated pits which is the same as UNDP Global MPI.

(Deprived if) : According to the Sustainable Development Goals, the household does not have access to improved *sanitation, or it does but it is shared with other families. If a home has a flush toilet, latrine,* ventilated *improved pit, or composting toilet that is not shared, it is deemed to have improved sanitation.* (UNDP, 2022)

The variable *SA*4 in IHDS-2 contains the information about the type of toilet a household has. So if it doesn't have improved sanitation then it is considered to be deprived.

Indicator: Drinking Water

The household is considered to be deprived if it doesn't have an improved source of drinking water (i.e. Piped, Tubewell, Handpump, Covered well and Rainwater) or it doesn't have the water source within a 30 minute walking distance, roundtrip.

The achievement for this indicator includes safe and clean drinking water within a 30 minute round trip which is the same as UNDP Global MPI.

(Deprived if) : According to Sustainable Development Goal criteria, the household does not have access to an improved source *of drinking water, or an improved source of drinking water is at least a* 30 *roundtrip walk* from *home. Piped water, a public tap, a borehole or pump, a protected well, a protected spring, or rainfall are all considered better sources of drinking water for a residence.* (UNDP, 2022)

The variable *WA*1*A* contains the information about the drinking water source of a household if it is not an improved source then the household is considered to be deprived, Also *WA*4*A* contains the data of walking time (in minutes) to the source a cut off is set at 15 which ensures that if a household doesn't clear the cutoff it means it takes more than 30 minutes for a roundtrip to source in which it is considered to be deprived.

Indicator: Housing

The household is considered to be deprived if any of the floor, roof, or walls are made of kutcha materials.

The deprivation in housing extends and manifests to a variety of deprivation across multiple dimensions. It represents a household's inability to live in a safe and clean environment.

The achievement for this indicator is defined as that none of the floor, roof, and walls of the house is made of rudimentary materials like wood, clay, mud, or sheets. The deprivation defined in UNDP Global MPI is as

(Deprived if) : At least one of the household's three housing elements—floor, walls, or roof—is built of insufficient materials, such as natural materials for the floor and/or natural or

rudimentary materials for the walls and/or roof .Natural materials such as cane, palm, trunks, sod, mud, dirt, grass*, reeds, thatch, bamboo or sticks or rudimentary materials such as carton, plastic or polythene sheeting, bamboo or stone with mud, loosely packed stones, uncovered adobe, raw or reused wood, plywood, cardboard, unburnt brick, or canvas or tent are used to construct the roof or walls.* (UNDP, 2022)

The variables HQWALL, *HQROOF,* and *HQFLOOR* contain the data if the household has pukka or kutcha walls, roof, and floor respectively. So if a household is deprived in any of the above variables then it is considered to be deprived.

Indicator: Cooking Fuel

The household is considered to be deprived if it doesn't use LPG for either cooking, heating, or lighting.

The achievement in this indicator encompasses a household's ability to have access to safe and clean cooking fuel like LPG. It is similar to the achievement level of UNDP Global MPI.

(Deprived if) : Dung, wood, charcoal, or coal are used as cooking fuel to cook in the family. (UNDP, 2022)

IHDS-2 contains data about firewood, dung, crop residue, kerosene LPG, and coal/charcoal of which only LPG can be considered a clean fuel for cooking. Hence if a household doesn't use LPG as a fuel it is considered to be deprived.

The assumption in our achievement level is that if a household uses LPG only for either heating or lighting then it must have access to good and clean fuel for cooking hence households using LPG only for heating or lighting are also considered not deprived.

The variable *FU*11 contains the data about the use of LPG for a household, if it doesn't use it for cooking, heating, or lighting then it is considered deprived.

Indicator: Assets

The household is considered to be deprived if it does not own a car or truck and does not own more than one of the following assets: television, telephone, computer, bicycle, motorbike, or refrigerator.

The indicator measures the household's ability to have ownership of assets that could be essential and functional for their work and livelihood. This could have a direct or indirect impact on the psychological well-being and development of the household. Deprivation here can also hamper their connectivity to the outside world which might limit their opportunities to have a sustainable life. The UNDP Global MPI achievement for this indicator is defined as

(Deprived if) : The household *lacks a car or truck, as well as more than one of the following assets: Radio, television, telephone, computer, animal cart, bicycle,* motorcycle*, or refrigerator.* (UNDP, 2022)

Our achievement level in this indicator is similar to that of UNDP Global MPI apart from the exclusion of radio and animal cart as IHDS-2 does not include data about radio or animal cart.

The variable *CG*21 contains the data if a household owns a car or not. Also, *CG*4, *CG*8, *CGTV* , *CG*17, *CG*18, *CGCOMPUTER,* and *CG*16 contain data of a household owning cycle, motorcycle, television, cell phone, refrigerator, computer, and telephone respectively. If a household does not own a car and doesn't own more than 1 item from the above list it is considered to be deprived.

Chapter 3

Result

3.1 Multidimensional Poor in India

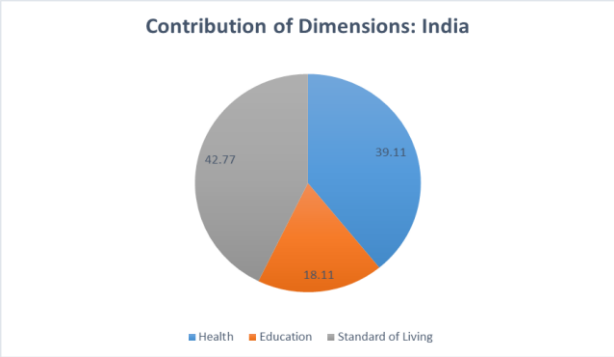
At the national level, 30.6 % of the population is found to be multidimensional poor. Among the rural population, the percentage increases to 40.5% while only 9.1% of the urban population is found to be multidimensional poor. Here, the classification of the data sample into the rural and urban populations is based on the 2011 Census of India. Although a significant proportion of the rural population is multidimensional poor when compared to the proportion of the urban population, the intensity of multidimensional poverty is fairly similar and within a 6% deviation from national multidimensional poverty intensity. At the national level, the intensity of multidimensional poverty is found to be 0.446, which indicates that on average poor population is deprived in 44.6% of the weighted indicators. Among the rural population, it is 0.448 while among the urban population multidimensional poverty intensity is 0.422. The rural population of India also has a higher MPI score than the national MPI score. The national MPI score is 0.136 which indicates that the poor in India face 13.6% of the possible deprivation they can face, the MPI score of rural India is 0.18 and the MPI score of urban India is 0.038. (See table 3.1.1)

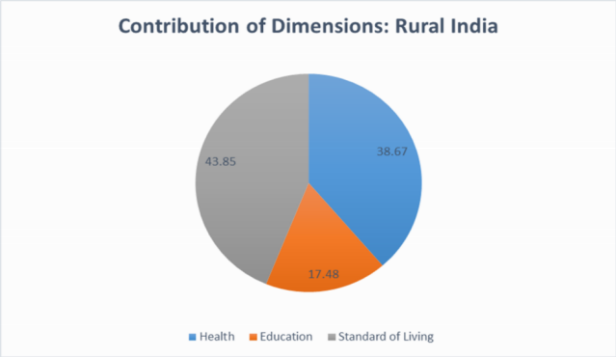
Region	Headcount ratio	Intensity of Poverty	MPI
National	30.6	44.64	0.136
Rural	40.49	44.89	0.181
Urban	9.07	42.2	0.038

Table3.1.1: MPI of India

3.1.1 Decomposition of MPI

The decomposition of MPI score into dimensions provides a broad picture of the contribution of each dimension to MPI and the benefit of this composition is at the policy level where policymakers get the view on which sector to focus while drafting the policy. The Standard of Living dimension is the largest contributor to multidimensional poverty in India with the share of 42.8% followed by health at 39.1% and Education contributing 18.1% to the multidimensional poverty. (See chart 3.1.1.1) Standard of Living continues to dominate the share with 43.8% at the rural level followed by Health and Education. However, among the urban population Health has the highest contribution to MPI with 43.6% followed by Standard of Living and Education.





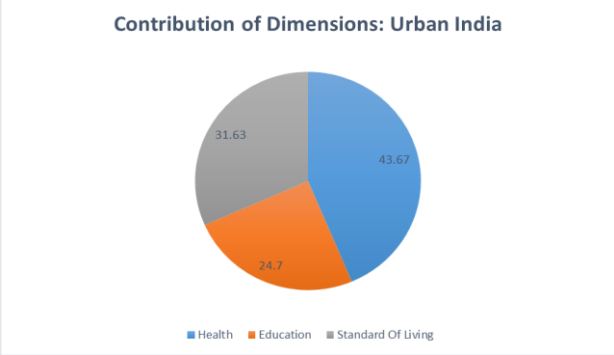


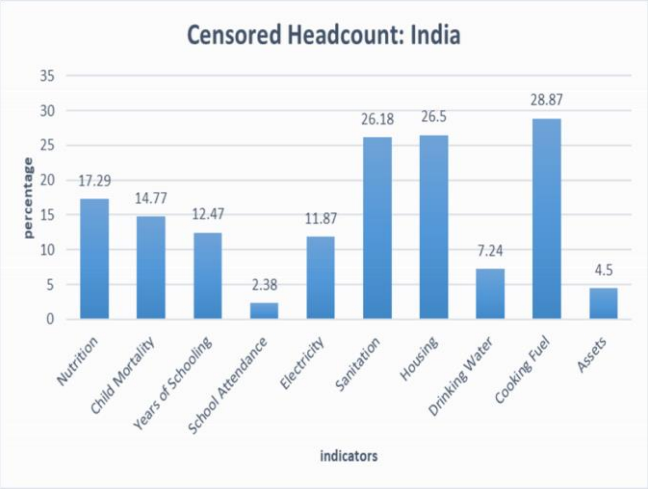
Chart 3.1.1.1: Contribution of dimensions

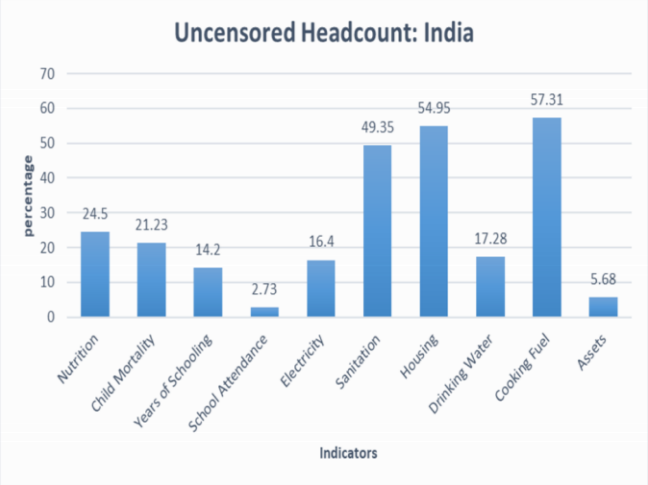
The deconstruction of MPI can also be done at each individual indicator. We can then use 3 different estimates, uncensored headcount ratio, censored headcount ratio, and contribution of each indicator to MPI to get a thorough and objective assessment of poverty. The uncensored headcount provides us the estimate of the proportion of population deprived in an indicator. It presents the policymakers with a broader picture of priorities to help decrease poverty.

The censored headcount provides the estimate of the proportion of the population who are multidimensionally poor and are deprived in an indicator. It provides the policymakers with targeted and urgent priorities which require immediate intervention as this has a direct effect on the multidimensional poor people. The contribution of each indicator to MPI highlights the dominant indicators that require policy intervention to overall reduce the MPI.

At the national level, the uncensored headcount is highest for the Cooking fuel indicator at 57.3% and lowest for the school attendance indicator at 2.7%. (see chart 3.1.1.2). The censored headcount also has the same extremities, with the Cooking fuel indicator at 28.8% and the school attendance indicator at 2.3%. However, the highest contributing indicator to

MPI is Nutrition with a share of 21.1% and the lowest share is of assets indicator with 1.82%. The rural population has the same extremities as national averages for all the 3 estimates (see chart3.1.1.3), while the urban population estimates are different instead of the Cooking fuel Housing indicator has the largest uncensored headcount at 26.2% and the lowest is of assets at 1.36%. Cooking fuel has the highest censored headcount at 6.71% and the lowest censored headcount is of assets with 0.8%. (see chart3.1.1.4). The nutrition indicator has the highest contribution to the MPI with a share of 22% and the assets indicator has the lowest contribution with a share of 1.28%.





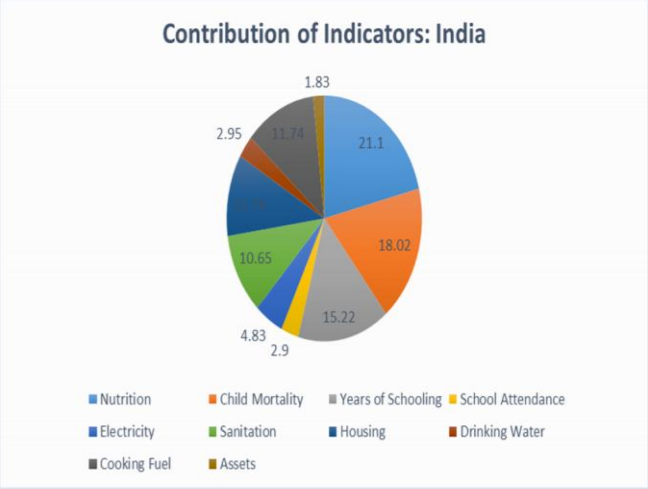
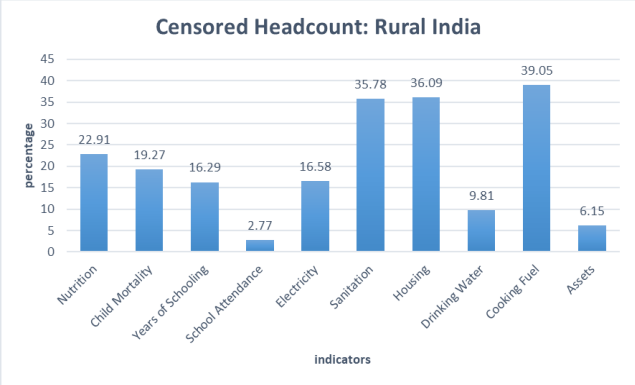
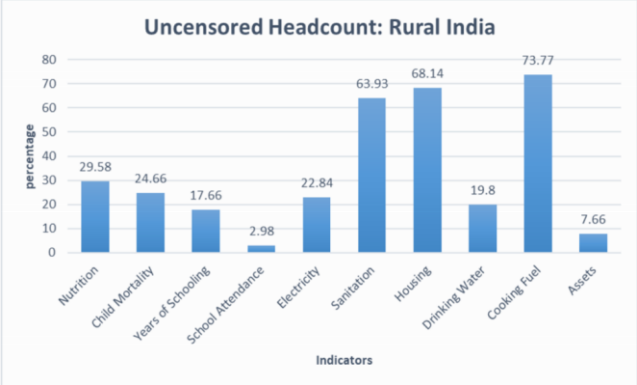
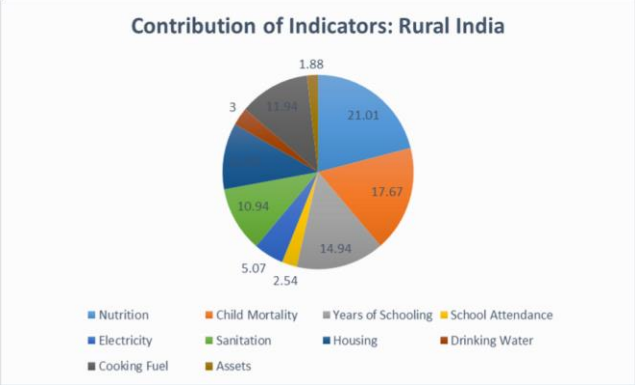
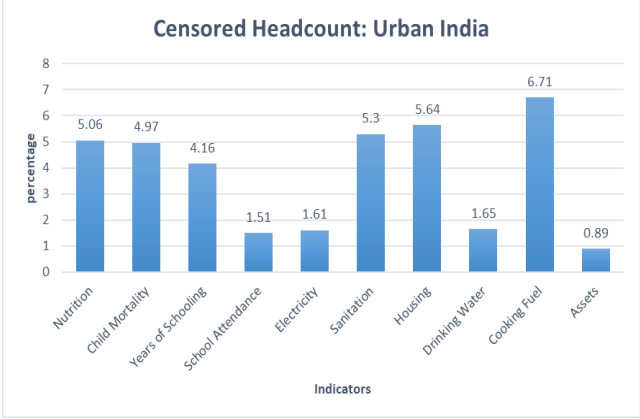


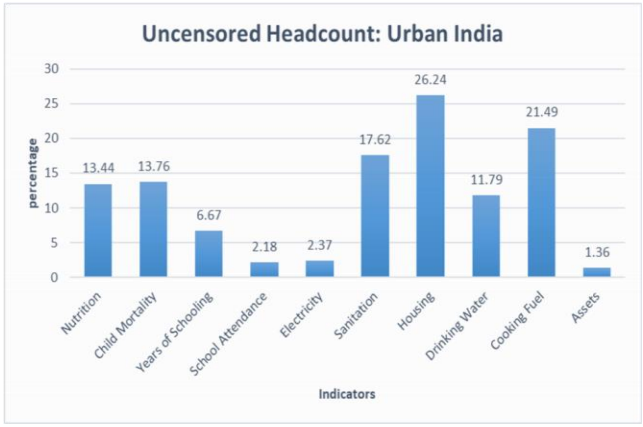
Chart3.1.1.2: Estimates of Indicators: India











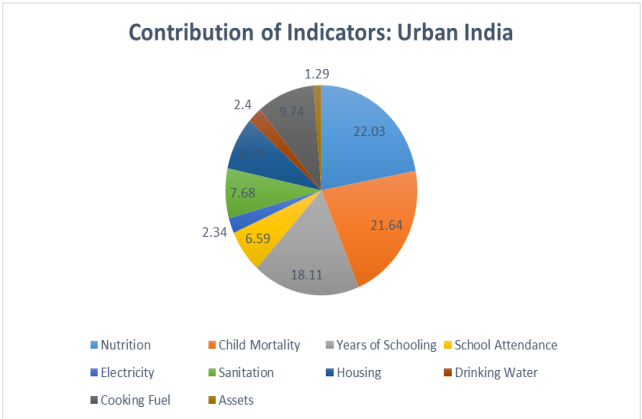


Chart 3.1.1.3 and 3.1.1.4 : Estimates of Indicators

3.2 MPI of Zonal councils of India

India is classified into 5 zonal councils under the State Reorganization Act of 1956. Zonal Councils are advisory councils made up of Indian states that have been divided into five zones in order to enhance collaboration among states and make recommendations in any matter of common interest in the field of economic and social planning. Later amendments were made to include the North Eastern States into the zonal council and a North Eastern Council was established under North Eastern Council Act 1971.

The table 3.2.1 classifying zones, and map of zones provides a list of all 6 Zonal Council and States that form the respective council.

Zonal Councils	States and Union territories
Northern	Haryana, Himachal Pradesh, Punjab, Rajasthan, Jammu and Kashmir, Delhi, Chandigarh, Ladakh
Southern	Andhra Pradesh, Karnataka, Kerala, Tamil Nadu, Telangana, Puducherry
Central	Uttar Pradesh, Uttrakhand, Madhya Pradesh, Chhattisgarh
Eastern	Bihar, Jharkhand, Odisha, West Bengal
Western	Maharashtra, Goa, Gujarat, Dadra and Nagar Haveli, Daman and Diu
North Eastern	Arunachal Pradesh, Assam, Sikkim, Tripura, Nagaland, Manipur, Meghalaya, Mizoram

Table 3.2.1: Zonal Councils of India

The Southern Zonal Council has the lowest proportion of multidimensional poor while the Central Zonal Council has the highest proportion of poor. 46.4% of the population of the Central Zone is poor while 14% of the population of the Southern Zone is poor. The intensity of Poverty and MPI score follow the same trend as the Headcount ratio with the Central Zone having the highest Intensity of Poverty at 0.459 and MPI score at 0.213 while Southern Zone at 0.396 Intensity and MPI score at 0.055.(See table3.2.2). (chart 3.2.1) shows headcount ratio of zonal councils.

Zonal Councils	Headcount ratio	Intensity of Poverty	MPI
Northern	21.88	44.49	0.099
Southern	14.06	39.6	0.055
Central	46.41	45.98	0.213
Eastern	42.26	45.66	0.193
Western	18.56	41.26	0.077
North Eastern	16.38	40.94	0.067

Table 3.2.2 : MPI of Zonal Councils of India

The MPI score is grouped into 3 categories, 0-0.1, 0.1-0.2, and 0.2 and higher. Except for the Central Zone and the Eastern Zone all the other zones fall into the first category, while the Eastern Zone and the Central Zone fall in the second and the third category respectively. (see map3.2.1)

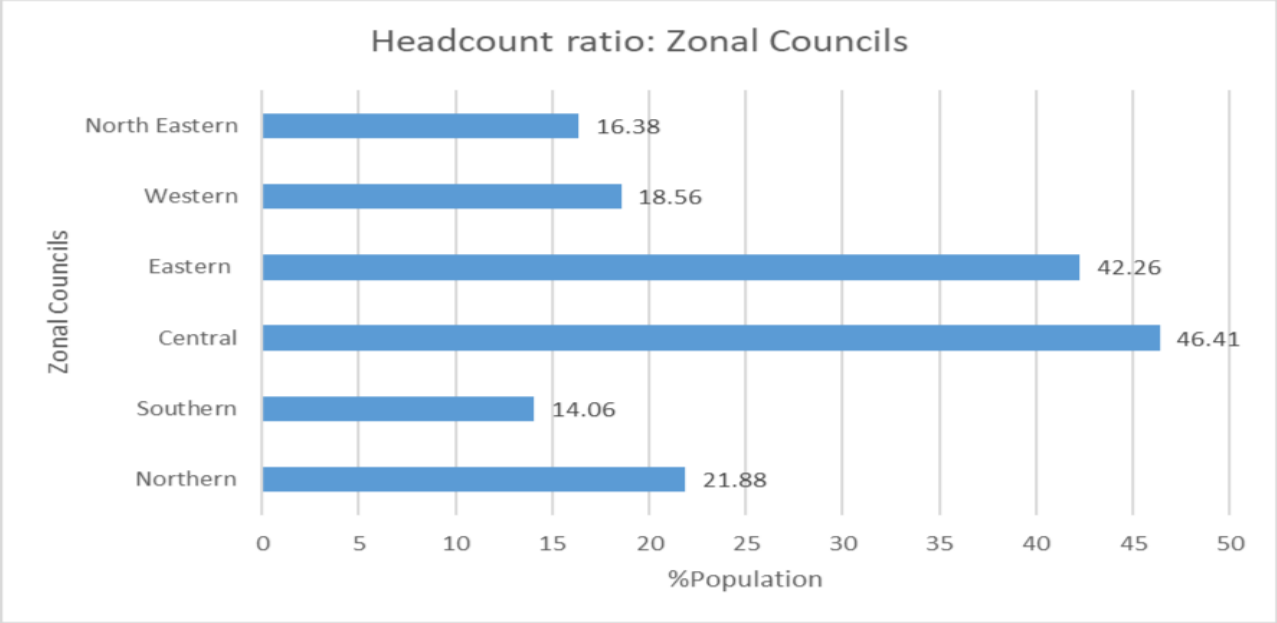
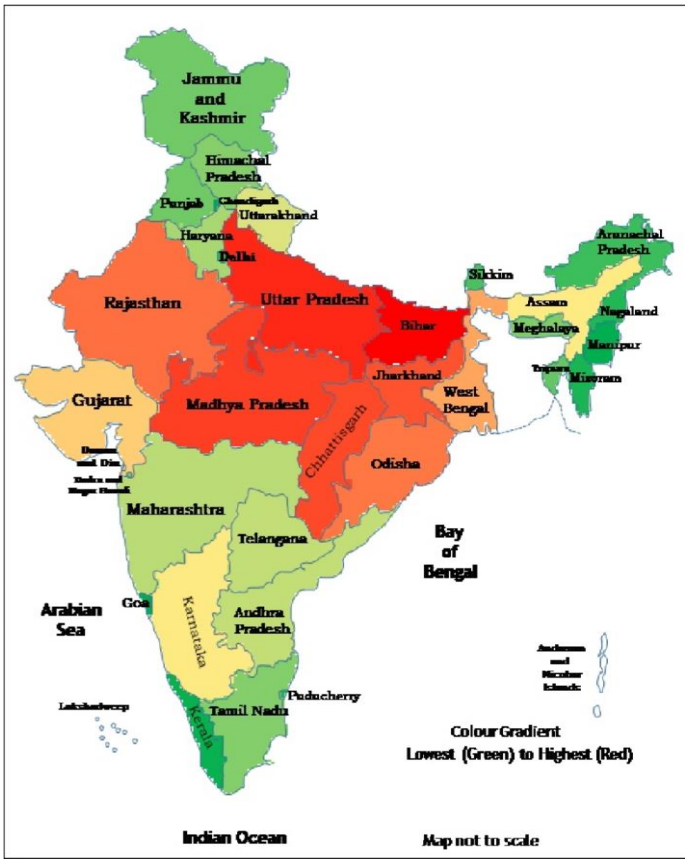


Chart 3.2.1: Headcount ratio of Zonal councils



Map 3.2.1 : MPI heat map of states of India (Lowest : Green, Highest: Red)

Map 3.2.2: MPI heat map of zonal councils of India (Lowest : Green, Highest: Red)

3.2.1 Decomposition of Zonal MPI of India

The North Eastern Zone is the best performing zone in the Health dimension with the contribution of the health dimension to its MPI as low as 22.6%. The worst performing zone in the Health dimension is the Northern Zone, where Health contributes almost 42.2% to its MPI. (See chart 3.2.1.1)

In the Education dimension, the Western Zone is the best performing zone with Education contributing 13.4% to its MPI while the North Eastern Zone performs the worst with Education contributing 33.6% to its MPI (chart 3.2.1.3)

The Standard of Living dimension dominates the contribution to MPI in all the zones of India except the Northern Zone, where Health has the highest contribution. The Northern Zone is also the best performing zone in the Standard of Living dimension with a contribution of 37.3% to its MPI while the Western Zone performs the worst with a contribution having as high as 45.2%. (chart 3.2.1.2)

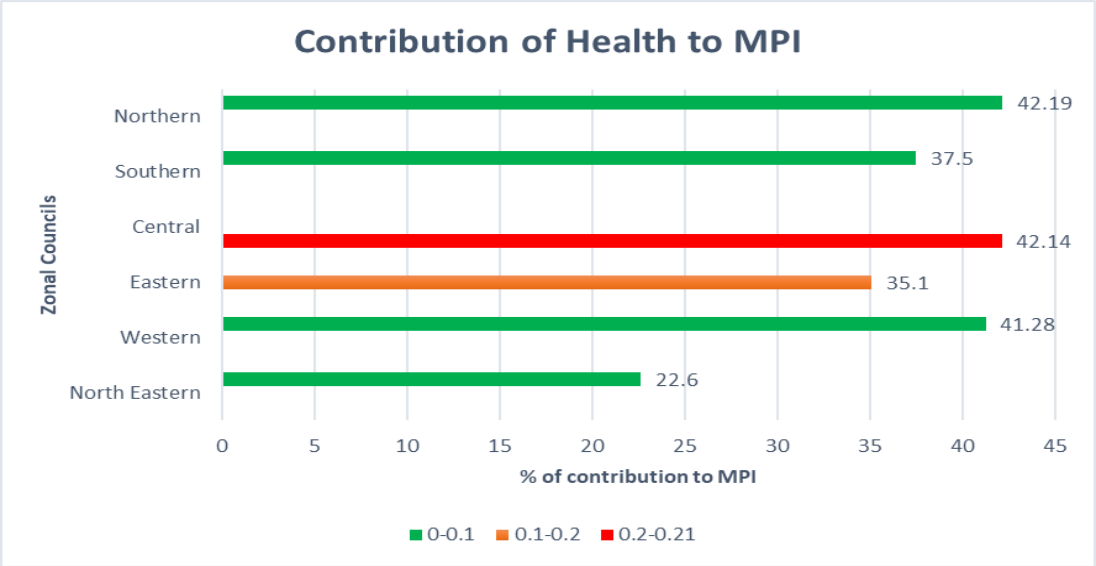


Chart 3.2.1.1 : Contribution of Health to MPI

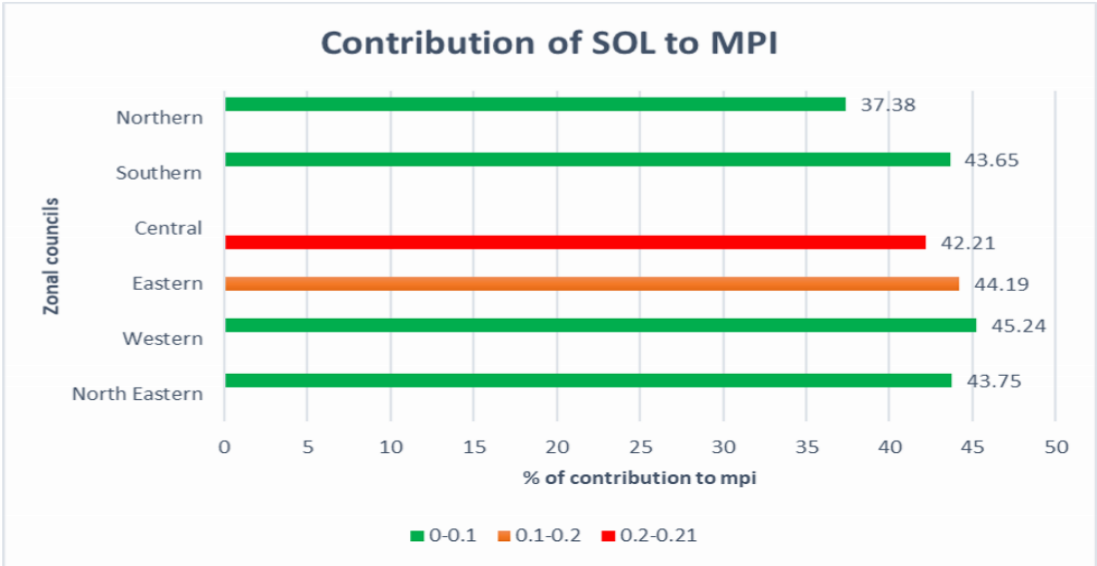


Chart 3.2.1.2 : Contribution of SOL to MPI

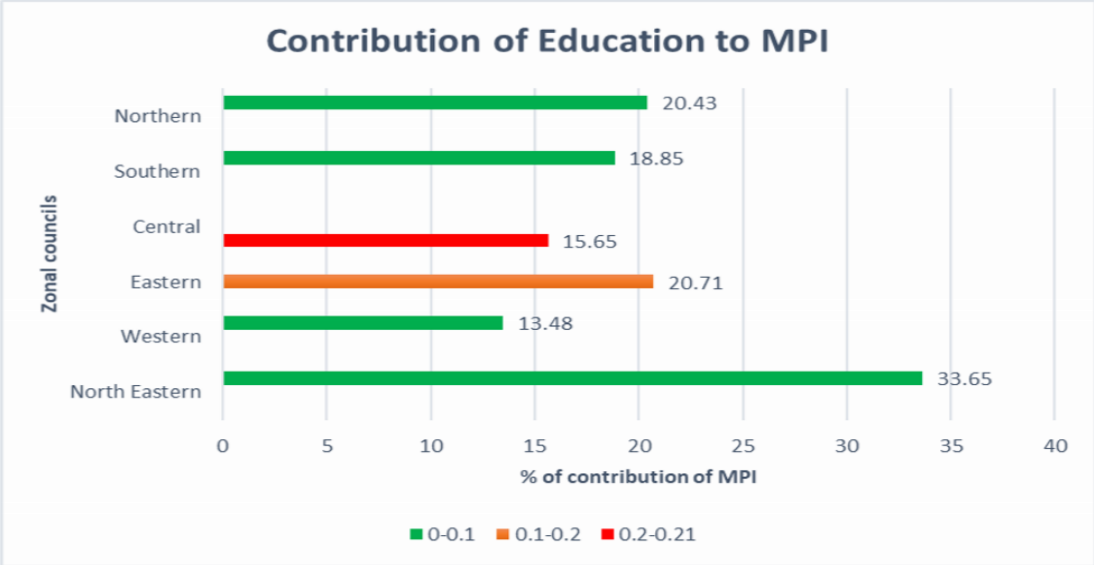


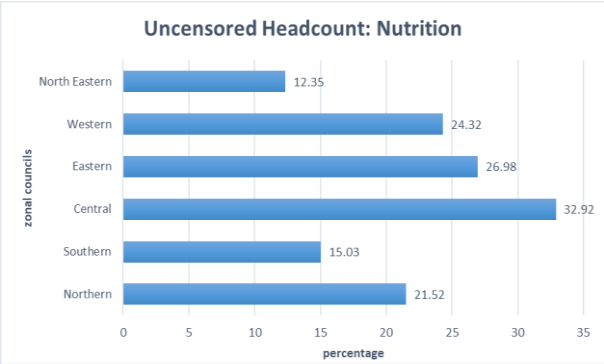
Chart 3.2.1.3 : Contribution of Education to MPI

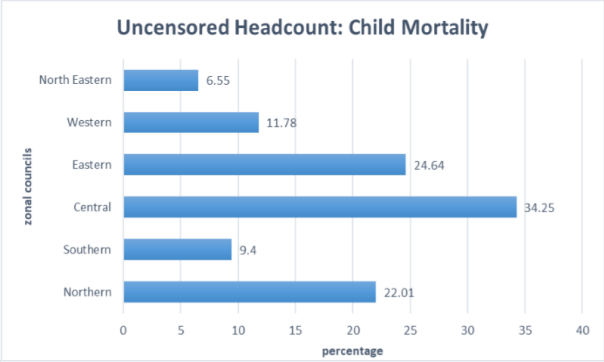
In the uncensored Headcount estimate, the Central Zone has the highest proportion of the poor population in the Nutrition and Child Mortality indicator while the North Eastern Zone has the lowest proportion in both of them. The Southern Zone has the lowest proportion of the poor population in School Attendance and Electricity indicators while the North Eastern Zone has the highest proportion in both of them. The Western Zone has the lowest proportion of the poor population in the Years of Schooling indicator and the Eastern Zone has the highest proportion in it. The North Eastern Zone has the lowest proportion of the poor population in Sanitation and Drinking Water indicators while the Central Zone and the Southern Zone have the highest proportion in them respectively. The Northern Zone has the lowest proportion of the poor population in the Housing and Cooking Fuel indicator while the North Eastern Zone and the Eastern Zone have the highest proportion in them respectively. The Southern Zone has the lowest proportion of the poor population in the assets indicator while the Eastern Zone has the highest proportion in it.

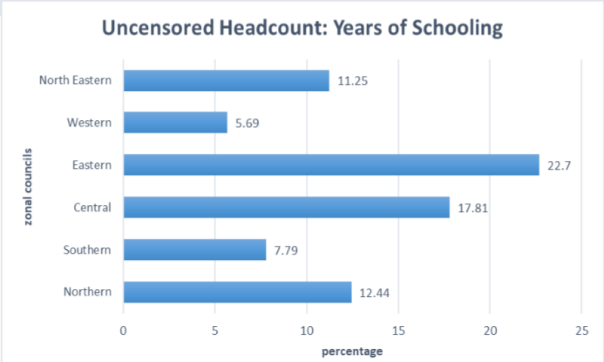
In the Censored Headcount estimate, the Southern Zone has the lowest proportion of the poor population in 5 of the 10 indicators, which includes School Attendance, Electricity, Housing, Cooking Fuel, and Assets. On the other hand, the Central Zone has the highest proportion of the poor population in 6 of the 10 indicators, which include Nutrition, Child Mortality, Electricity, Sanitation, and Housing.

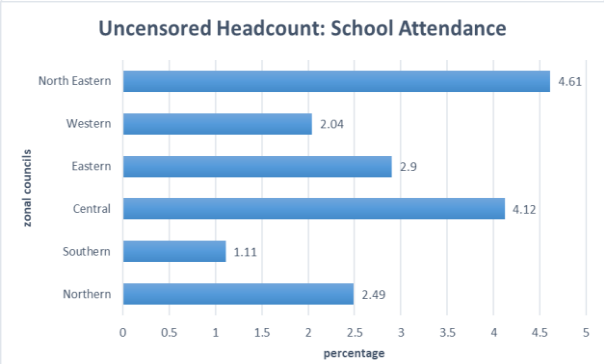
In the contribution to the Indicator estimate, the Western Zone has the highest contribution in 4 of the 10 indicators, which includes Nutrition, Drinking Water, Cooking fuel, and Assets.

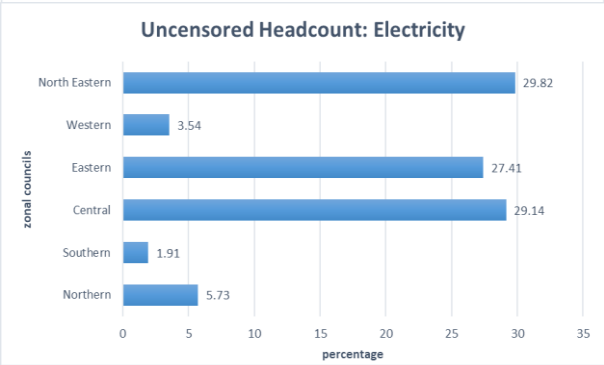
The North-Eastern Zone has the lowest contribution to the 4 of the 10 indicators, which include Nutrition, Child Mortality, Electricity, and Drinking Water.
Charts with uncensored headcount, censored headcount and contribution of indicators for zonal councils of India .(below)

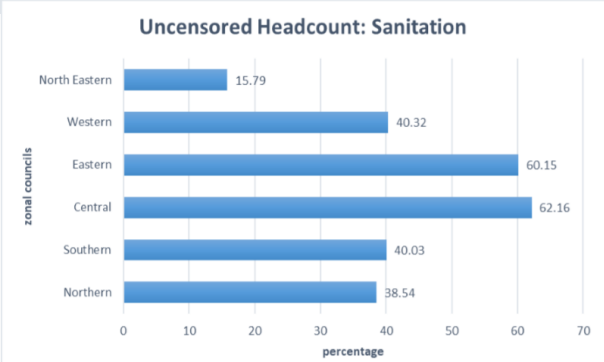

Uncensored Headcount: Nutrition
North Eastern
Western
Eastern
Central
Southern
Northern
12.35
24.32
26.98
32.92
15.03
21.52
zonal councils
0 5 10 15 20 25 30 35
percentage

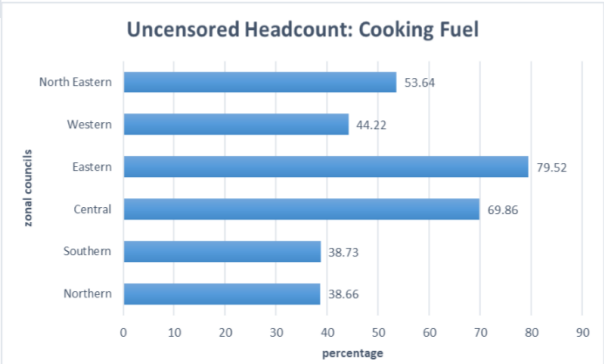

Uncensored Headcount: Child Mortality
North Eastern
Western
Eastern
Central
Southern
Northern
6.55
11.78
24.64
34.25
9.4
22.01
zonal councils
0 5 10 15 20 25 30 35 40
percentage

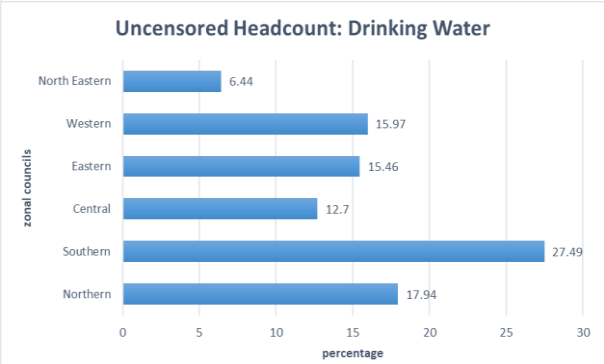

Uncensored Headcount: Years of Schooling
North Eastern
Western
Eastern
Central
Southern
Northern
11.25
5.69
22.7
17.81
7.79
12.44
zonal councils
0 5 10 15 20 25
percentage

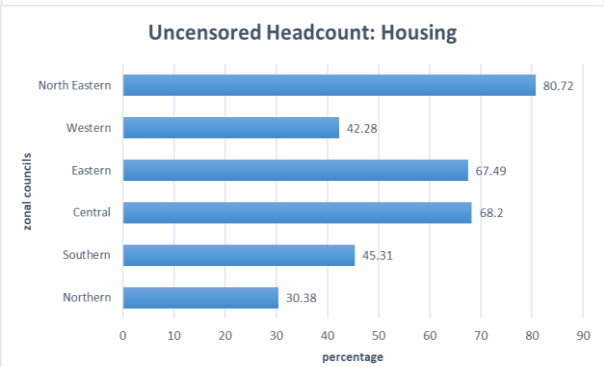

Uncensored Headcount: School Attendance
North Eastern
Western
Eastern
Central
Southern
Northern
4.61
2.04
2.9
4.12
1.11
2.49
zonal councils
0 0.5 1 1.5 2 2.5 3 3.5 4 4.5 5
percentage

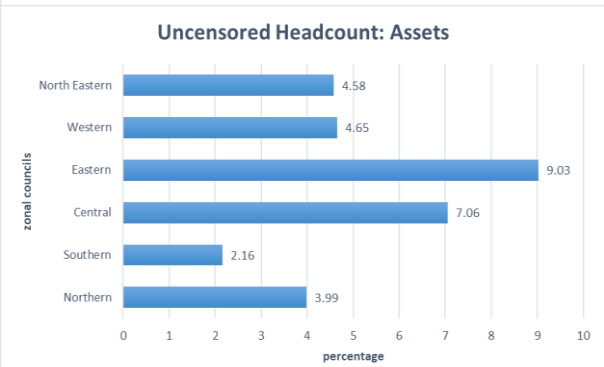

Uncensored Headcount: Electricity
North Eastern
Western
Eastern
Central
Southern
Northern
29.82
3.54
27.41
29.14
1.91
5.73
zonal councils
0 5 10 15 20 25 30 35
percentage

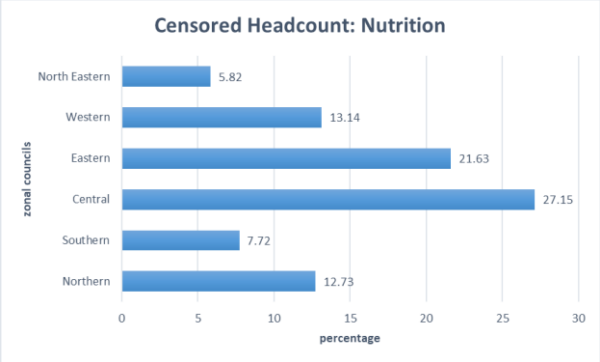

Uncensored Headcount: Sanitation
North Eastern
Western
Eastern
Central
Southern
Northern
15.79
40.32
60.15
62.16
40.03
38.54
zonal councils
0 10 20 30 40 50 60 70
percentage

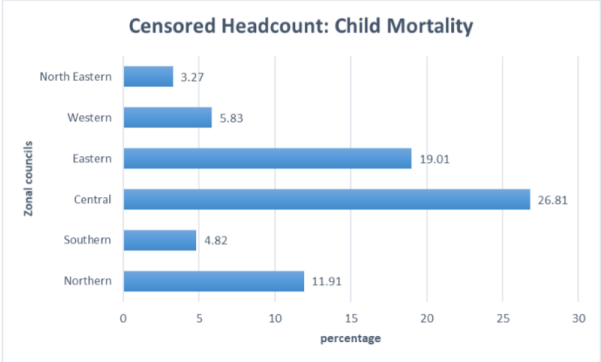

Uncensored Headcount: Cooking Fuel
North Eastern
Western
Eastern
Central
Southern
Northern
53.64
44.22
79.52
69.86
38.73
38.66
zonal councils
0 10 20 30 40 50 60 70 80 90
percentage

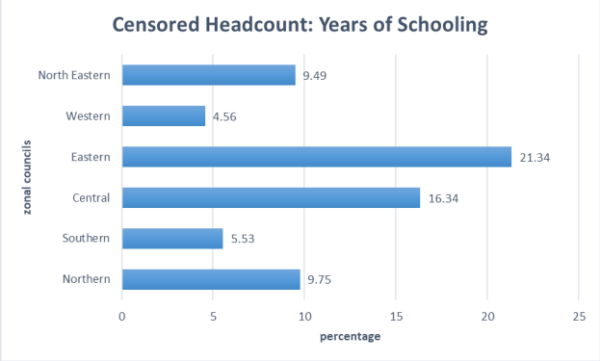

Uncensored Headcount: Drinking Water
North Eastern
Western
Eastern
Central
Southern
Northern
6.44
15.97
15.46
12.7
27.49
17.94
zonal councils
0 5 10 15 20 25 30
percentage

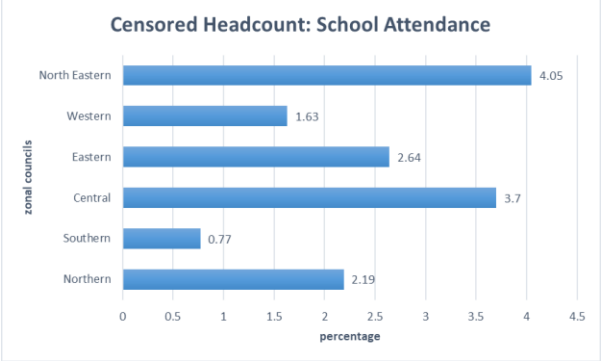

Uncensored Headcount: Housing
North Eastern
Western
Eastern
Central
Southern
Northern
80.72
42.28
67.49
68.2
45.31
30.38
zonal councils
0 10 20 30 40 50 60 70 80 90
percentage

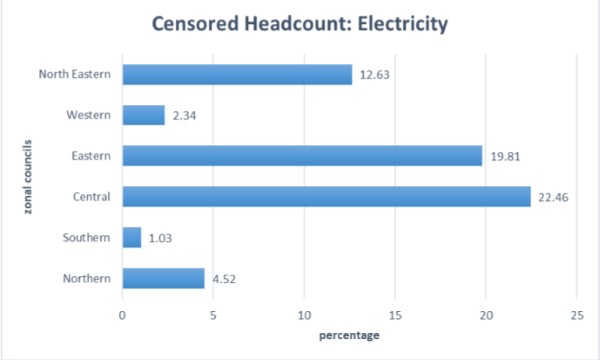

Uncensored Headcount: Assets
North Eastern
Western
Eastern
Central
Southern
Northern
4.58
4.65
9.03
7.06
2.16
3.99
zonal councils
0 1 2 3 4 5 6 7 8 9 10
percentage

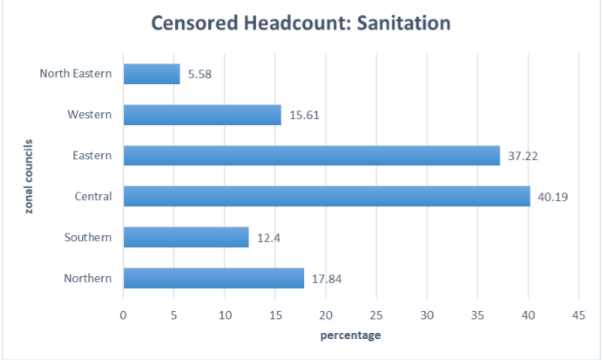

Censored Headcount: Nutrition
North Eastern
Western
Eastern
Central
Southern
Northern
5.82
13.14
21.63
27.15
7.72
12.73
zonal councils
0
5
10
15
20
25
30
percentage

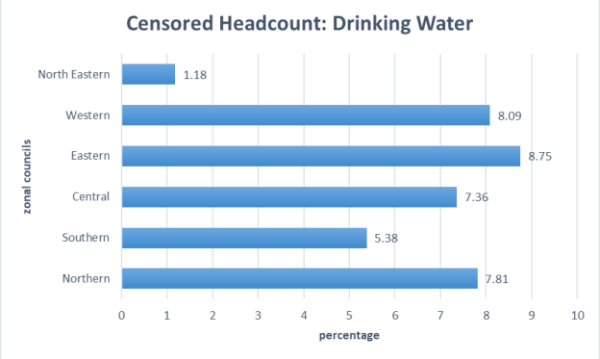

Censored Headcount: Child Mortality
North Eastern
Western
Eastern
Central
Southern
Northern
3.27
5.83
19.01
26.81
4.82
11.91
Zonal councils
0
5
10
15
20
25
30
percentage

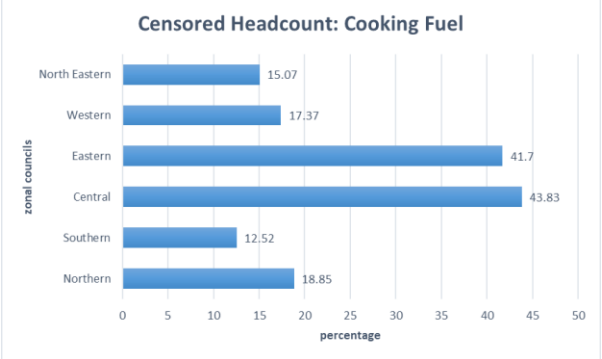

Censored Headcount: Years of Schooling
North Eastern
Western
Eastern
Central
Southern
Northern
9.49
4.56
21.34
16.34
5.53
9.75
zonal councils
0
5
10
15
20
25
percentage

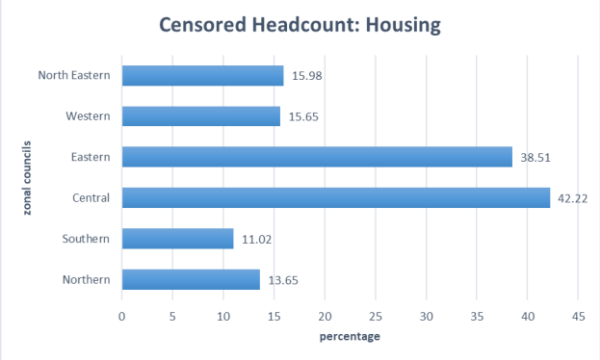

Censored Headcount: School Attendance
North Eastern
Western
Eastern
Central
Southern
Northern
4.05
1.63
2.64
3.7
0.77
2.19
zonal councils
0
0.5
1
1.5
2
2.5
3
3.5
4
4.5
percentage

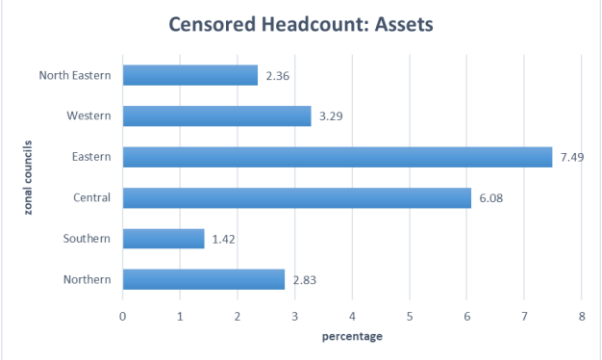

Censored Headcount: Electricity
North Eastern
Western
Eastern
Central
Southern
Northern
12.63
2.34
19.81
22.46
1.03
4.52
zonal councils
0
5
10
15
20
25
percentage

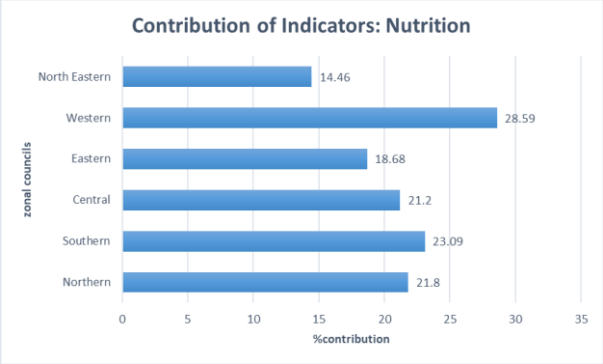

Censored Headcount: Sanitation
North Eastern
Western
Eastern
Central
Southern
Northern
5.58
15.61
37.22
40.19
12.4
17.84
zonal councils
0
5
10
15
20
25
30
35
40
45
percentage

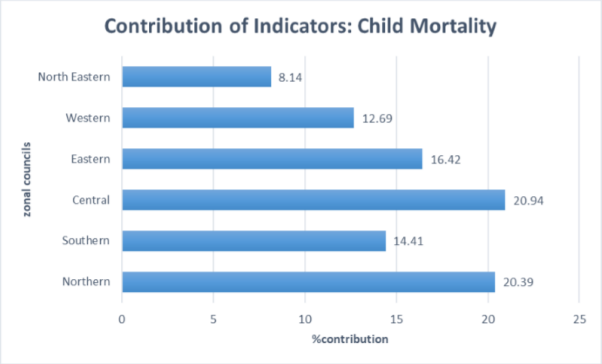

Censored Headcount: Drinking Water
North Eastern
Western
Eastern
Central
Southern
Northern
1.18
8.09
8.75
7.36
5.38
7.81
zonal councils
0
1
2
3
4
5
6
7
8
9
10
percentage

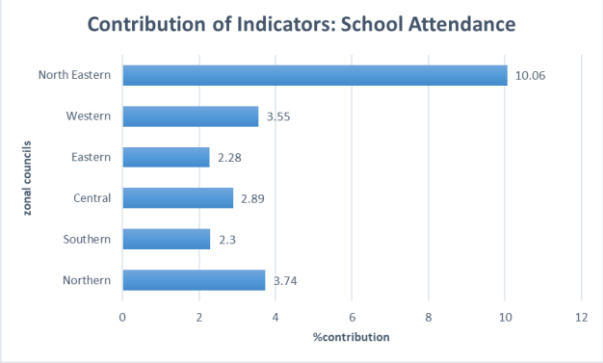

Censored Headcount: Cooking Fuel
North Eastern
Western
Eastern
Central
Southern
Northern
15.07
17.37
41.7
43.83
12.52
18.85
zonal councils
0
5
10
15
20
25
30
35
40
45
50
percentage

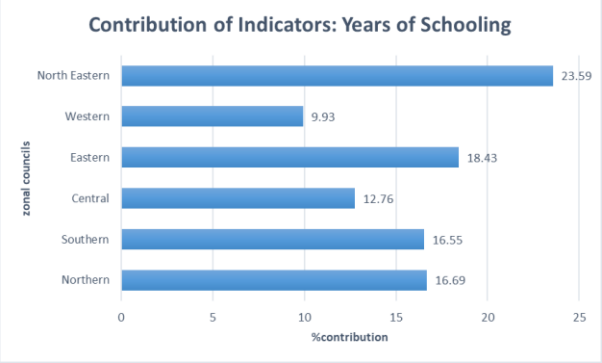

Censored Headcount: Housing
North Eastern
Western
Eastern
Central
Southern
Northern
15.98
15.65
38.51
42.22
11.02
13.65
zonal councils
0
5
10
15
20
25
30
35
40
45
percentage

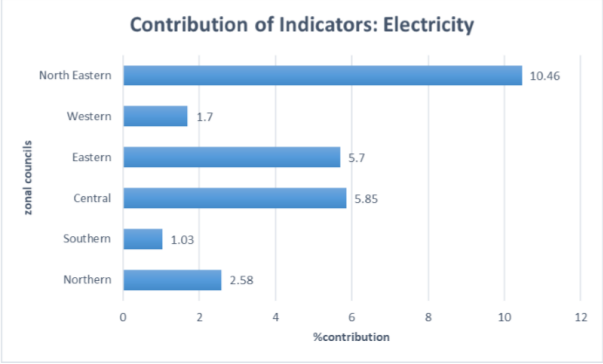

Censored Headcount: Assets
North Eastern
Western
Eastern
Central
Southern
Northern
2.36
3.29
7.49
6.08
1.42
2.83
zonal councils
0
1
2
3
4
5
6
7
8
percentage

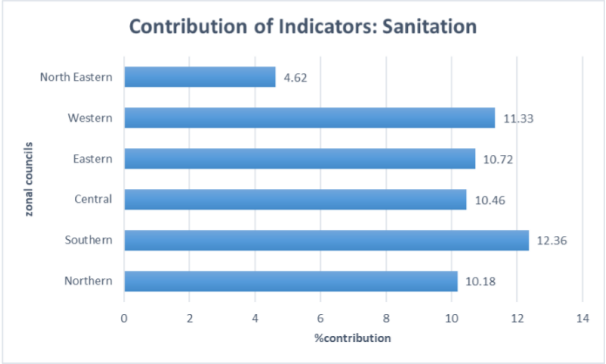

Contribution of Indicators: Nutrition
North Eastern
Western
Eastern
Central
Southern
Northern
14.46
28.59
18.68
21.2
23.09
21.8
zonal councils
0 5 10 15 20 25 30 35
%contribution

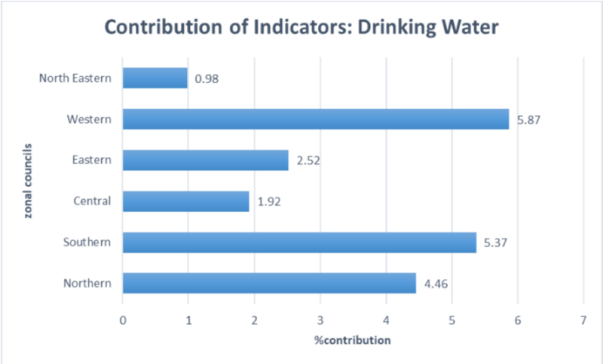

Contribution of Indicators: Child Mortality
North Eastern
Western
Eastern
Central
Southern
Northern
8.14
12.69
16.42
20.94
14.41
20.39
zonal councils
0 5 10 15 20 25
%contribution

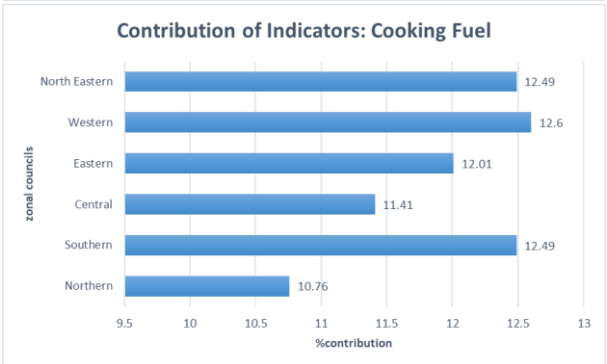

Contribution of Indicators: School Attendance
North Eastern
Western
Eastern
Central
Southern
Northern
10.06
3.55
2.28
2.89
2.3
3.74
zonal councils
0 2 4 6 8 10 12
%contribution

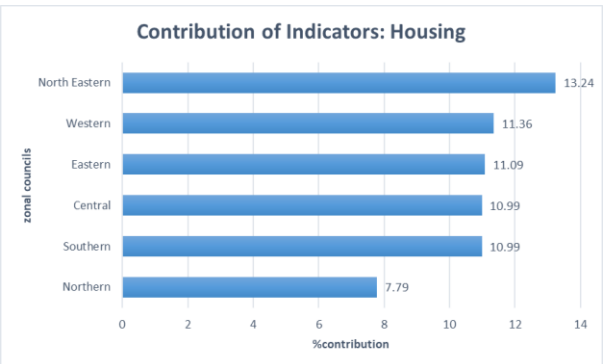

Contribution of Indicators: Years of Schooling
North Eastern
Western
Eastern
Central
Southern
Northern
23.59
9.93
18.43
12.76
16.55
16.69
zonal councils
0 5 10 15 20 25
%contribution

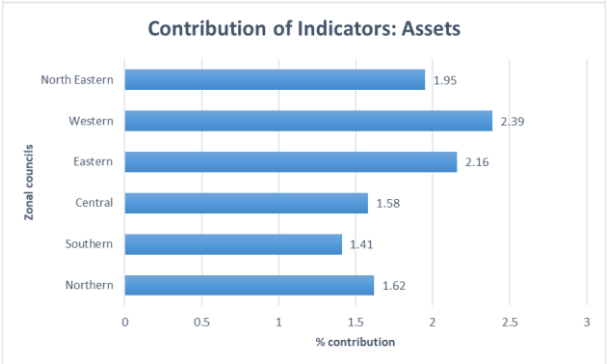

Contribution of Indicators: Electricity
North Eastern
Western
Eastern
Central
Southern
Northern
10.46
1.7
5.7
5.85
1.03
2.58
zonal councils
0 2 4 6 8 10 12
%contribution


Contribution of Indicators: Sanitation
North Eastern
Western
Eastern
Central
Southern
Northern
4.62
11.33
10.72
10.46
12.36
10.18
zonal councils
0 2 4 6 8 10 12 14
%contribution


Contribution of Indicators: Drinking Water
North Eastern
Western
Eastern
Central
Southern
Northern
0.98
5.87
2.52
1.92
5.37
4.46
zonal councils
0 1 2 3 4 5 6 7
%contribution


Contribution of Indicators: Cooking Fuel
North Eastern
Western
Eastern
Central
Southern
Northern
12.49
12.6
12.01
11.41
12.49
10.76
zonal councils
9.5 10 10.5 11 11.5 12 12.5 13
%contribution


Contribution of Indicators: Housing
North Eastern
Western
Eastern
Central
Southern
Northern
13.24
11.36
11.09
10.99
10.99
7.79
zonal councils
0 2 4 6 8 10 12 14
%contribution


Contribution of Indicators: Assets
North Eastern
Western
Eastern
Central
Southern
Northern
1.95
2.39
2.16
1.58
1.41
1.62
Zonal councils
0 0.5 1 1.5 2 2.5 3
% contribution

Chapter 4

Discussion and Conclusion

4.1 Discussion

4.1.1 MPI of India

The United Nations Development Programme established the Sustainable Development Goals (SDG) in the year 2015 and the first SDG goal was to "End poverty in all its form everywhere" (UNDP, 2022) It recognized poverty in Multidimensional form rather than unidimensional monetary form. Every year UNDP produces a Global MPI report to gauge the global poverty estimate. The popularization of MPI has led to the acknowledgment of the multidimensional nature of poverty by many nations including India. In the year 2021 NITI Aayog released the first-ever National MPI report (NITI Aayog; OPHI, 2022). It was based on the 2014–2015 National Family Health Survey (NFHS-4) and adopted Alkire Foster's double cutoff counting approach but had 12 indicators among 3 dimensions rather than 10 indicators among 3 dimensions as in the Global MPI and in this study as well.

Report	Headcount ratio	Intensity of Poverty	MPI
National MPI by NITI Aayog	25.01	47.13	0.118
Global MPI by UNDP	27.9	43.9	0.123
Our report	30.6	44.64	0.136

Table 4.1.1.1: Data from all three reports

The Global MPI report of 2021 (UNDP, 2022) found the MPI score of India to be 0.123 with a Headcount ratio of 27.9%, and the Intensity of Poverty to be at 43.9%. The National MPI report found the MPI score of India to be 0.118 with a Headcount ratio of 25.01% and Intensity of Poverty at 47.13%. (see table 4.1.1.1)We calculated the MPI score to be 0.136 which is a 15.2% deviation from the National MPI report and 10.5% deviation from the Global MPI report. The headcount ratio we found to be was 30.5% and the Intensity of poverty to be 44.6% which is 21.9% and 5.3% deviated from the National MPI report respectively while it is 9.3% and 1.5% deviated from Global MPI Report respectively. All 3 reports used the same methodology, AF double cutoff method but different data sets and identification and aggregation of indicators were not exactly the same, especially the National MPI report which had structural and weight differences in Health and Standard of Living dimensions when compared to Global MPI report and our report. This highlights one of the key features of MPI as it is flexible enough to allow perturbation at a structural level to incorporate different ways of identification and allotment of the weight of indicators.

The Standard of Living dimension contributes the highest among all dimensions in the Global MPI report with a share of 44.8% followed by Health at 31.9% and Education at 23.4%. Our report follows the same trend with Standard of Living dominating with a share of 42.8% followed by Health at 39.1% and Education at 18.1%. However, the National MPI report presents a different trend with Health having a dominant share of 39.8% followed by Standard of Living at 37.6% and Education at 22.5%. (see table 4.1.1.2). The major contributor to this change in trend is the addition of the Maternal Health indicator which contributes 10.4% to the MPI in the National MPI report. The censored headcount ratio is highest for the Cooking fuel indicator both in the National MPI report and in our study. NITI aayog estimates it at 23.13% while our estimation is 28.8%. For India to reduce MPI a policy of providing clean cooking fuel is necessary.

Report	Health	Education	Standard of Living
National MPI by NITI Aayog	39.87	22.53	37.59
Global MPI by UNDP	31.9	23.4	44.8
Our report	39.11	18.11	42.77

Table 4.1.1.2: Contribution of dimensions for all 3 reports

4.1.2 MPI of Zonal Councils of India

We estimated the MPI score of 6 Zonal councils of India, this classification enabled us to efficiently use the broad sample set of the IHDS-2 data set, and states grouped into each zonal council can collaborate to recommend and form comprehensive and inclusive development policies. Each of the Zonal Council of India is at different stages of poverty, The Central and the Eastern Zone comprise 25.7% and 22.7% of the total population but their share in the MPI score of India is 40.2% and 32.2% respectively. However, the Southern Zone comprises 20% of the total population but their contribution to the MPI score of India is as low as 8.2%. The poor population is also skewed towards the regions with Central and Eastern Zones hosting 39% and 31.4% of the poor population of India while the Southern Zone hosts 9.2% of the poor in India despite having 20% of the population share. This shows that the Central and the Eastern Zones are struck with poverty more extremely than the Southern Zone of India. The censored headcount also supports this argument where out of 10 indicators the Central Zone and the Eastern Zone have the highest proportion of the poor population in 6 and 3 indicators respectively. This requires immediate intervention at the policy level in those Zonal Councils of India.

Among the states of India, Bihar, Uttar Pradesh, and Madhya Pradesh have the highest multidimensional poverty with Bihar having an MPI score as high as 0.257 followed by Uttar Pradesh at 0.229 and Madhya Pradesh at 0.212. Goa, Manipur, and Kerala are among the lowest multidimensional poor states. Kerala has an MPI score of 0.003 while Goa and Manipur have an MPI score of 0, which could be due to very few and skewed sampling of data in those states. 27.5% of the Indian States had an MPI score greater than that of the National MPI score. All states of the Eastern Zonal council had an MPI score greater than that national MPI score while none of the states of the Southern and North Eastern Council had an MPI score greater than that of the National MPI score. (see map 3.2.1)

4.2 Concluding Remarks

There have been studies where the Multidimensional Poverty Index of India has been calculated (Alkire & Seth, Multidimensional Poverty and Inclusive Growth in India: An Analysis Using Growth Elasticities and Semi-Elasticities, 2021), (NITI Aayog; OPHI, 2022) but most of them used National Family Health Survey (NFHS) data. We tried to provide an alternative and presented the Multidimensional Poverty Index of India (MPI) based on the India Human Development Survey (IHDS-2) data set. Although there have been studies that used the IHDS data set to compute the MPI of India but they weren't aligned to the Global MPI structure. For example (Mainali-Namakar & Mohanty-Reply) and (Dehury & Mohanty, 2015) included an Economic dimension whose cutoff is set based on the official poverty line of India. We presented the MPI that was non-monetary and fell in correspondence with the UNDP Global MPI structure and weights. We went into the decomposition of the MPI into its dimensions and indicators to investigate their contribution to MPI. Apart from the national, rural, and urban decomposition of India, we went deeper into the Zonal Councils of India to estimate their MPI, Headcount, and Intensity of Poverty. This should provide the Zonal council committee with the crucial MPI statistics of their Zonal councils that could help them formulate the policy to reduce poverty in their zones. The states involved in the zonal councils could come together and collaborate to formulate policy and allocate budgets accordingly that reduce the poverty in the zone. We compared the national results with the MPI produced by NITI Aayog in the first-ever National MPI report and the Global MPI report produced by United Nations Development Programme (UNDP) and Oxford Poverty and Human Development Initiative (OPHI) . We hope this presentation of MPI from a different data set and its comparison to the National MPI report and Global MPI report could provide the policymakers with a comprehensive and holistic view of the Index and help them in the formulation of relevant policies to reduce the MPI of India.

Bibliography

Alkire, S. (2018). Multidimensional poverty measures as relevant policy tools (OPHI Working Paper 118). *University of Oxford*.

Alkire, S., & Foster, J. (2011). Counting and multidimensional poverty measurement. *Journal of public economics*, 476-487.

Alkire, S., & Santos, M. E. (2010). Acute multidimensional poverty: A new index for developing countries. *Publisher: Oxford Poverty & Human Development Initiative (OPHI) Working Paper*.

Alkire, S., & Seth, S. (2021). Multidimensional Poverty and Inclusive Growth in India: An Analysis Using Growth Elasticities and Semi-Elasticities. *Available at SSRN 3862857*.

Dehury, B., & Mohanty, S. (2015). Regional estimates of multidimensional poverty in India. *Economics*.

Gaur, S., & Rao, N. S. (2020). Poverty measurement in India: a status update-2020. *Ministry of Rural Development Working Paper*, 1-22.

Mainali-Namakar, N., & Mohanty-Reply, S. (n.d.). Regional Estimates of Multidimensional Poverty in India.

NITI Aayog; OPHI. (2022, 04 06). *India National Multidimensional Poverty Index 2021: Baseline Report | OPHI*. Retrieved from https://ophi.org.uk/india-mpi-2021-report/

OPHI. (2022, 04 06). *Multidimensional Poverty Measurement and Analysis: Chapter 1 – Introduction | OPHI*. Retrieved from https://ophi.org.uk/multidimensional-poverty-measurement-and-analysis-chapter-1-introduction/

OPHI. (2022, 04 06). *Multidimensional Poverty Measurement and Analysis: Chapter 5 – The Alkire-Foster Counting Methodology | OPHI*. Retrieved from https://ophi.org.uk/multidimensional-poverty-measurement-and-analysis-chapter-5-the-alkire-foster-counting-methodology/

UNDP. (2022, 04 06). *The 2021 Global Multidimensional Poverty Index (MPI) | Human Development Reports*. Retrieved from https://hdr.undp.org/en/2021-MPI

Appendix

5.1 Variables Glossary

Variable	Description
AP5	First entry of woman's height in household
AP6	Second entry of woman's height in household
AP8	First entry of woman's weight in household
AP9	Second entry of woman's weight in household
BH8A	Age of child when died
ED6	Education : Completed Years
RO5	Age of household member
ED5	Education : Enrolled now
FU1	Household Electricity
SA4	Household Toilet
WA1A	Main water source
WA4A	Water time to external water source (one way)
HQWALL	House Wall type
HQROOF	House roof type
HQFLOOR	House floor type
FU11	LPG use
CG21	Household owns cars
CG4	Household owns cycle
CG8	Household owns motorcycle
CGTV	Household owns television
CG17	Household owns cell phone
CG18	Household owns refrigerator
CGCOMPUTER	Household owns computer
CG16	Household owns telephone

5.2 Data Files

Region	Health	Education	Standard of Living
National	39.11	18.11	42.77
Rural	38.67	17.48	43.85
Urban	43.67	24.7	31.63

Indicators	Uncensored Headcount	Censored Headcount	Contribution of Indicator
Nutritional	24.5	17.29	21.1
Child Mortality	21.23	14.77	18.02
Years of Schooling	14.2	12.47	15.22
School Attendance	2.73	2.38	2.9
Electricity	16.4	11.87	4.83
Sanitation	49.35	26.18	10.65
Housing	54.95	26.5	10.78
Drinking Water	17.28	7.24	2.95
Cooking Fuel	57.31	28.87	11.74
Assets	5.68	4.5	1.83

Indicators	Uncensored Headcount	Censored Headcount	Contribution of Indicator
Nutritional	29.58	22.91	21.01
Child Mortality	24.66	19.27	17.67
Years of Schooling	17.66	16.29	14.94
School Attendance	2.98	2.77	2.54
Electricity	22.84	16.58	5.07
Sanitation	63.93	35.78	10.94
Housing	68.14	36.09	11.03
Drinking Water	19.8	9.81	3
Cooking Fuel	73.77	39.05	11.94
Assets	7.66	6.15	1.88

Indicators	Uncensored Headcount	Censored Headcount	Contribution of Indicator
Nutritional	13.44	5.06	22.03
Child Mortality	13.76	4.97	21.64
Years of Schooling	6.67	4.16	18.11
School Attendance	2.18	1.51	6.59
Electricity	2.37	1.61	2.34
Sanitation	17.62	5.3	7.68
Housing	26.24	5.64	8.19
Drinking Water	11.79	1.65	2.4
Cooking Fuel	21.49	6.71	9.74
Assets	1.36	0.89	1.29