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# Regional Estimates of Household Poverty in India

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**Abstract:** Present study estimates household poverty of state wise and among socio-religious groups of Six NSS regions in India and compare 61<sup>st</sup> (2004-05) and 68<sup>th</sup> (2011-12) NSSO rounds of Household Monthly Per capita Consumption Expenditure (MPCE) data surveyed by National Sample Survey Organization (NSSO). Methodology of the research work is primarily uses of state wise specific poverty line for rural and urban separately which is defined by Tendulkar Methodology. The study found higher the incidence of household poverty is 38.27 percent in 61<sup>st</sup> (2004-05) round & 22.75 percent in 68<sup>th</sup> (2011-12) round in the country. Among the regions higher the household poverty found in eastern, north eastern & central regions states. Meanwhile, across the socio-religious groups were larger the household poverty found in Scheduled Tribes and Scheduled Caste which is higher than OBC and Others and also Muslim households are comparatively poorer than Hindus.

## INTRODUCTION

Poverty is one of the most serious issues being faced by any economy. Income or consumption levels though are taken formally to represent poverty, but such a measure of poverty needs to be supplemented by other factors that would reflect access to a minimum level of social facilities. In nature, therefore the concept of poverty is multidimensional, where in concepts such as capabilities, human development, education, health are essential to define and measure poverty. India still is a country having biggest concentration of poor people in the world and home a third of the world's poor. In Indian context, poverty is measured in terms of a specified normative poverty line reflecting the minimum living standard of people. The measurement of poverty is a complex exercise and the estimates are broadly based on household per capita consumption expenditure from NSS household consumption expenditure

surveys. The World Bank (2005) estimates that 42% of India's population are below the international poverty line of \$1.25 a day having reduced from 60% in 1980. However, the Planning Commission of India constituted by Expert Group under the chairmanship of Suresh D. Tendulkar for estimation of household poverty. The committee estimates 21.9 percent of the population are poor that is 269.9 million of population are living below the poverty line in 2011-12, it reduced from 37.2 percent in 2004-05<sup>1</sup>. But still sizable proportion of population in the country live below the poverty line and there is considerable disparity in capabilities across regions, within regions and across socio-religious groups in the country. Recently, the World Bank (2015) found 10 percent of world population lived on less than \$1.90 a day in 2015, down from 11.2 percent in 2013. That means 735.9 millions are lived below the poverty threshold in 2015, down from 804.2 million.

India as a developing country and it was the world fastest growing economy. Country it is second largest country in population after China and third largest purchasing power parity (PPP) and also fifth largest by economy of the nominal GDP. The growth in GDP during 2017-18 is estimated at 6.5 percent as compared to the growth rate of 7.1 percent in 2016-17. Since, 21<sup>st</sup> century average GDP growth has been 6 percent to 7 percent from 2014 to 2018. Agricultural sector provides livelihood to 65% to 70% of total population. This sector provides employment to 48.9% of country's workforce and is the single largest private sector occupation. As the Indian economy has diversified and grown, agriculture's contribution to GDP has steadily declined from 1951 to 2011, yet it is still the country's largest employment source and a significant piece of its overall socio-economic development. Over the last 10 years, India's merchandise trade (on customs basis) increased manifold from US \$ 195.1 billion in 2004-05 to US \$ 660.5 billion in 2016-16. The countries of tourism sector has achieved witnessed a growth. During 2017 more than 10 million foreign tourist are visited and earned Rs.1,80,379 crore and contributed 6.88% to countries GDP.

## **POVERTY ESTIMATION METHODOLOGY IN INDIA**

In India Dadabhai Naoroji was the first person to discuss about the concept of poverty line. After independence, there have been several efforts to develop mechanisms methodologies to construct poverty line and also identify the number of poor in the country. In 1962, the Planning Commission<sup>2</sup> constituted the working group to define the poverty line based on minimum calorie requirements suggested by the Indian Council for Medical Research (ICMR) that is 2,200 kl for rural and

2,100 kl for urban areas. The monetary value of these calories for a family of 5 people is fixed at Rs.100 per month or Rs.20 per capita per month in 1960-61 prices in urban areas. In 1979 the planning commission constituted Task Force Committee to estimate the percentage of population below the poverty line the committee fixed 2400 kl per capita per day in the rural area and 2100 kl per capita per day in urban area and estimated Rs.49.09 & Rs.56.64 monthly per capita for all India rural and urban areas. Planning Commission (1984) did not re-defined the estimation methodology of poverty, it adopted the methodology of the earlier task force committee, and accordingly fixed Rs.89.50 and Rs.115.65 as Monthly Per capita Consumption Expenditure (MPCE) for rural & urban area sectors as particularly. Estimates 45.65per cent rural and 40.79 per cent of urban and overall 44.48 per cent of the population is below the poverty line in India. Later in 2005, the Planning Commission constituted the expert group under the chairmanship of Suresh D. Tendulkar. The committee did not construct a poverty line but they espouse earlier expert group of Lakdawala methodology & committee fixed Rs.447 & Rs.579 per capita per month consumption expenditure for both rural and urban sector which is based on minimum calorie requirements is 2100 calorie for rural and 1776 calorie for urban sector. Recently in 2012, the Rangarajan Committee computed the poverty level based on average requirements of calories of 2,155 kcal per person per day for rural areas and 2,090 kcal per person per day for urban areas. According to the estimates of Rangarajan 30.9 per cent (260.5 million poor people) in rural area and 26.4 per cent (102.5 million poor people) of the population is below the poverty line in urban areas and overall 29.5 per cent (363 million people) at all India level of population is poor.

## CONCEPTS IN POVERTY ESTIMATION

The various measures of poverty estimation are Headcount Ratio, Poverty Gap Index, and Squared Poverty Gap Index.

- **Head Count Ratio ( $H_p$ ):** The number of poor estimated as the proportion of people below the poverty line is known as head count ratio. Is calculated by dividing the number of people below the poverty line by the total population.

$$H_p = \frac{n}{N} \quad (1)$$

$H_p$  = Headcount ratio,  $n$  = Number of people below poverty line &  $N$  = Total population.

- **Poverty Gap Index (PGI):** Another poverty measure is Poverty Gap Index. It is the ratio of gap between the per capita income of the poor and poverty line income or it is difference between the poverty line and average income of all households living below the poverty line expressed as percentage of poverty line.

$$PGI = \frac{Z - M_p}{Z} \quad (2)$$

PGI=Poverty gap index, Z= Poverty line income in Rs,  $M_p$ =Income of poor &  $Z - M_p$ = Aggregate poverty gap.

- **Income Gap Ratio / Poverty Gap Ratio ( $I_p$ ):** Sen (1976) called it Income Gap Ratio and Clark (1981) named it Poverty Gap Ratio. It is obtained by dividing the total expenditure of the poor by the number of people below the poverty line. It measures the poor below the poverty line.

$$I_p = \frac{Z - M_p}{Z.N} \quad (3)$$

Where N is the number of poor and the rest of symbols are defined as above.

- **Squared Poverty Gap ( $I_p^2$ ):** it is the mean of the squared proportionate poverty gaps. It indicates the severity as well sensing to inequality among the poor. It measures inequality among the poor. This measure is a member of Foster- Greer-Thorbecke (FGT) family of the poverty measure (R. Anita 2011).

$$I_p^2 = \sum_{i=1}^A \frac{(Z - M_p)}{Z^2} = 1 \frac{N}{N} \quad (4)$$

## LITERATURE REVIEWS

**Panagariya, A., & Mukim, M. (2013)** provides comprehensive analysis of poverty for 17 larger states in the country, by estimating poverty (headcount ratio) for rural and urban sector and for socio-religious groups by using two official poverty lines based on Lakdawala and Tendulkar Methodology. The study finds out that, during 1993-94 and 2009-10 poverty declining for various social and religious groups in all the states, secondly the reduction of poverty is larger in scheduled caste and scheduled tribes than the other backward class.

**Arora, A., & Singh, P., S. (2015)** by using unit level NSSO household consumption expenditure data of 61st (2004-05) and 68th (2011-12) round estimated



regional as well as disaggregated levels of poverty for socio-religious groups for both rural and urban sector of Uttar Pradesh (UP). The study classifies the state into different regions and identifies critical poverty affected regions in UP across socio-religious groups. The study finds the level of poverty across the central region, southern region and eastern region is unfairly distributed.

**Shivakumar (2019)** measured region wise household poverty among socio-religious groups in Karnataka, by using unit level Household consumption Expenditure data of 61<sup>st</sup> (2004-05) and 68<sup>th</sup> (2011-12) rounds of NSSO regions. State categorized by four administrative divisions for compare to which division has been suffering more chronic poverty. Study found higher the concentration of poverty among districts of Kalaburagi divisions. The incidence of household poverty among the social groups were reduced by 20.66% in Scheduled Caste followed by 19.67 % in Scheduled Tribes, 15.9% in OBC & 4.5% in others during the study period of 2004-05 to 2011-12.

## DATA AND METHODOLOGY

In order to fulfill the objective of household poverty estimation among the state and across socio-religious groups for various NSS regions the study makes use of NSSO data. The study compares 61<sup>st</sup> and 68<sup>th</sup> round of quinquennial surveys, based on their two surveys the poverty levels are estimated across state and socio-religious groups and compared six NSS regions is classified by National Sample Survey Organisation i.e., Northern Region<sup>3</sup>, Central Region<sup>4</sup>, Eastern Region<sup>5</sup>, North Eastern Region<sup>6</sup>, Western Region<sup>7</sup> & Southern Region<sup>8</sup> states in a country. The study using MPCE of Mixed Reference Period<sup>9</sup> (MRP) to measure incidence of mean poverty i.e. Head Count Ratio (Hp): which is defined as the “Percentage of population which is below the poverty line”. The study makes use of state wise specific poverty line is based on Tendulkar Methodology for rural & urban sector separately<sup>10</sup>.

## EMPIRICAL ANALYSIS

**Table 1: Incidence of Household Poverty**

<i>Round/ Sector</i>	<i>Rural</i>	<i>Urban</i>	<i>Total</i>
61 <sup>st</sup> Round (2004-05)	42.58	25.57	<b>38.27</b>
68 <sup>th</sup> Round (2011-12)	26.24	14.01	<b>22.75</b>
Declined	16.34 (2.33)	11.56 (1.65)	15.52 (2.21)

*Source:* Authors estimate based on 61st and 68th round of NSS data. Note: ( ) Change in percent of poverty per annum

Above table 1 reveals that rural poverty is greater than urban poverty in the country. The study is found that in India, 42.58 percent of rural households are poor, which is higher than 25.57 percent of urban poverty in 2004-05. Meanwhile, in 2011-12 it has come down to 26.24 percent of rural and 14.01 percent of urban household poverty. In the country some effective government policies has been declined by 15.52 percent of the poverty during the period of 2004-05 to 2011-12.

**Table 2: Incidence of Household Poverty across Social Groups**

Social Groups	Rural			Urban			Total		
	61 <sup>st</sup>	68 <sup>th</sup>	Change	61 <sup>st</sup>	68 <sup>th</sup>	Change	61 <sup>st</sup>	68 <sup>th</sup>	Change
ST	64.61	48.23	-(2.34)	37.08	25.51	-(1.65)	62.25	45.70	-(2.36)
SC	54.09	32.11	-(3.14)	40.36	21.91	-(2.63)	51.31	29.87	-(3.06)
OBC	40.69	23.55	-(2.44)	30.32	15.95	-(2.05)	38.41	21.50	-(2.41)
Others	27.26	15.60	-(1.66)	16.10	8.16	-(1.13)	23.06	12.54	-(1.50)
Total	42.58	26.24	-(2.33)	25.57	14.01	-(1.65)	38.27	22.75	-(2.21)

*Source:* Authors estimate based on 61st and 68th round of NSS data. Note: -() Change in Percentage per Annam

Above table 2 brings out that, between 61<sup>st</sup> and 68<sup>th</sup> round poverty is decline various social groups of among the states. The study found larger the poverty in scheduled tribes and scheduled caste than the OBC and others in the country. The central government has made effective policies has taken several steps to reduce by social, gender and regional inequalities has achieve larger the poverty is decline in scheduled caste is 3.06 points per annum followed by OBC is 2.41 points per annum, scheduled tribes is 2.36 points per annum and others 1.50 points per annum only for both rural and urban sector during the study period of 2004-05 to 2011-12.

**Table 3: Level Household Poverty at Religious Groups**

Religions Groups	Rural			Urban			Total		
	61 <sup>st</sup>	68 <sup>th</sup>	Change	61 <sup>st</sup>	68 <sup>th</sup>	Change	61 <sup>st</sup>	68 <sup>th</sup>	Change
Hindu	42.97	26.59	-(2.34)	23.12	12.52	-(1.51)	38.22	22.78	-(2.20)
Muslim	44.51	26.95	-(2.50)	41.20	22.78	-(2.63)	43.42	25.49	-(2.56)
<b>Total</b>	<b>43.15</b>	<b>26.64</b>	<b>-(2.35)</b>	<b>26.27</b>	<b>14.35</b>	<b>-(1.70)</b>	<b>38.92</b>	<b>23.16</b>	<b>-(2.25)</b>

*Source:* Authors estimate based on 61st and 68th round of NSS data. **Note:** -() Change in Percentage per Annam

Above table 3 shows that, among the religious groups where Muslim households are comparatively poorer in the country as compare to Hindus. In 61<sup>st</sup> round the study found Muslim households have huge poverty is 43.42 percent whereas 38.22 percent of Hindus households. Meanwhile, in 68<sup>th</sup> round is also found larger the household poverty is consisted in Muslims households in 25.49 percent as compare to Hindu households is 22.78 percent for both rural and urban sector.

**Table 4: State wise household Poverty in India**

Regions	States	Rural		Urban		Total	
		61 <sup>st</sup>	68 <sup>th</sup>	61 <sup>st</sup>	68 <sup>th</sup>	61 <sup>st</sup>	68 <sup>th</sup>
<b>Northern Region</b>	Jammu & Kashmir	14.03	11.54	10.36	07.20	13.10	10.57
	Himachal Pradesh	24.97	08.48	04.55	04.33	23.04	08.03
	Punjab	22.28	07.66	18.77	09.24	21.15	08.23
	Chandigarh	15.47	01.64	10.09	22.31	10.64	20.82
	Haryana	24.70	11.64	22.39	10.28	24.09	11.23
	Delhi	15.57	12.92	12.87	09.84	13.05	10.08
	Rajasthan	35.87	16.05	29.69	10.69	34.49	14.78
<b>Central Region</b>	Uttarakhand	35.13	11.70	26.20	10.48	33.04	11.39
	Uttar Pradesh	42.68	30.40	34.05	26.17	40.99	29.50
	Chhattisgarh	55.16	44.61	28.39	23.95	51.06	40.20
	Madhya Pradesh	53.49	35.74	35.05	21.00	49.18	31.98
<b>Eastern Region</b>	Bihar	55.58	34.36	43.73	31.23	54.48	34.06
	West Bengal	38.05	22.52	24.45	14.66	34.72	20.43
	Jharkhand	51.64	40.77	33.07	24.83	48.64	37.48
	Orissa	60.91	35.69	37.52	17.29	57.71	32.91
<b>North Eastern Region</b>	Sikkim	31.86	09.85	25.95	03.66	31.19	08.78
	Arunachal Pradesh	33.55	38.93	23.53	20.33	32.40	35.27
	Nagaland	09.71	19.93	04.26	16.48	08.11	18.71
	Manipur	39.24	38.80	34.27	32.39	38.03	37.09
	Mizoram	23.04	35.43	07.95	06.36	17.09	22.01
	Tripura	44.42	16.24	22.47	07.42	41.34	14.88
	Meghalaya	13.98	12.53	24.68	09.26	15.40	11.84
<b>Western Region</b>	Assam	36.38	33.89	21.77	20.58	35.03	32.50
	Gujarat	39.19	21.54	20.00	10.22	32.57	16.95
	Daman & Diu	02.41	00.00	14.43	12.62	06.63	04.89
	Dadra & Nagar Haveli	63.63	62.59	16.81	15.38	58.11	42.89
	Maharashtra	47.91	24.22	25.62	09.12	38.93	17.31
	Goa	28.09	6.81	22.21	04.09	25.89	05.42

*contd. table 4*

Regions	States	Rural		Urban		Total	
		61 <sup>st</sup>	68 <sup>th</sup>	61 <sup>st</sup>	68 <sup>th</sup>	61 <sup>st</sup>	68 <sup>th</sup>
<b>Southern Region</b>	Andhra Pradesh	32.11	10.96	23.36	05.81	29.87	09.27
	Karnataka	37.5	24.53	25.88	15.29	33.92	21.18
	Lakshadweep	0.34	00.00	05.26	03.44	02.78	01.73
	Kerala	20.11	9.19	03.87	04.97	16.30	08.08
	Tamil Nadu	37.54	15.83	19.74	06.59	30.69	11.71
	Pondicherry	22.91	17.06	09.91	06.30	14.51	09.97
	A & N Island	03.29	01.57	00.81	00.00	02.45	00.98
	Total	42.58	26.24	25.57	14.01	38.27	22.75

*Source:* Authors estimate based on 61<sup>st</sup> and 68<sup>th</sup> round of NSS data. Note: 1. Poverty line of Tamil Nadu is used for Andaman and Nicobar Island. 2. Urban Poverty Line of Punjab is used for both rural and urban areas of Chandigarh. 3. Poverty Line of Maharashtra is used for Dadra & Nagar Haveli. 4. Poverty line of Goa is used for Daman & Diu. 5. Poverty Line of Kerala is used for Lakshadweep.

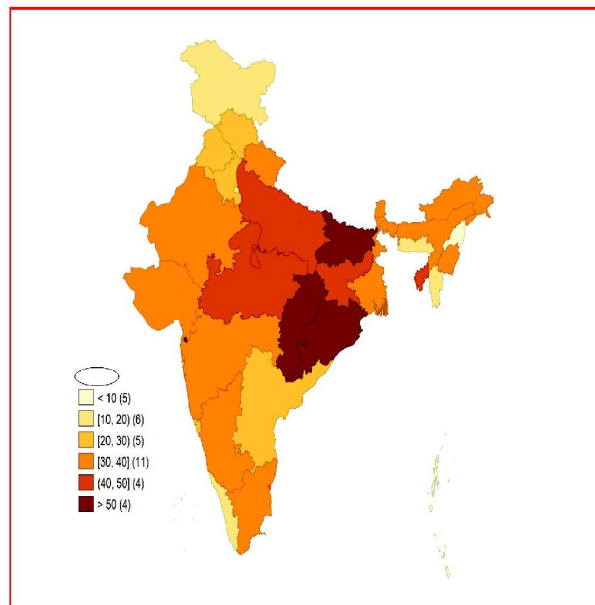
Above table 4 are exhibits that, the study estimate household poverty at state level and compare 61<sup>st</sup> and 69<sup>th</sup> round of NSSO round by using state wise specific poverty line based on Tendulkar methodology. Study found that there is larger the household poverty is decline by during the study period of 2004-05 to 2011-12. But in 2011-12 still there is huge poverty found in Chhatisgarh is 73.30 percent followed by Dadra & Nagar Haveli 42.89 percent, Jharkhand 37.48 percent, Manipur 37.09 percent, Arunachal Pradesh 35.27 percent and Bihar 34.06 percent. Whereas, lower the household poverty found in Andaman & Nicobar Island is 0.98 percent followed by Lakshadweep 1.73 percent, Chandigarh 3.67 percent, Daman & Diu 4.89 percent, Goa 5.42 percent, Himachal Pradesh 8.03 percent, Punjab 8.23 percent and Kerala 8.08 percent for both rural and urban sector.

The state level poverty has been illustrated 61<sup>st</sup> (2004-05) and 68<sup>th</sup> (2011-12) round and it is mapped separately in below figure 1 & 2.

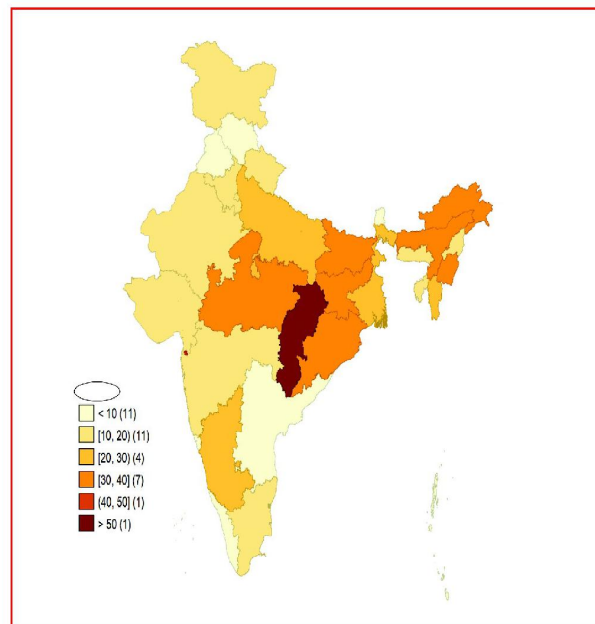
Above table 5 is reveals that, the study is also measure household poverty across the socio-religious groups of the among NSS region. The study is found that larger the household poverty among socio-religious groups particularly in scheduled tribes, scheduled caste and Muslims in North Eastern, Central and Western region district. Meanwhile, smaller the household poverty found in Western, Northern and Southern region states for both rural and urban sector during 2004-05 to 2011-12.



**Figure 1: Poverty @ 61<sup>st</sup> (2004-05) Round**



**Figure 2: Poverty @ 68<sup>th</sup> (2011-12) Round**



**Table 5: Regional wise Poverty across Socio-Religious Groups**

<i>Socio-Religious Groups</i>	<i>ST</i>		<i>SC</i>		<i>OBC</i>		<i>Others</i>		<i>Hindu</i>		<i>Muslim</i>	
	<i>61<sup>st</sup></i>	<i>68<sup>th</sup></i>	<i>61<sup>st</sup></i>	<i>68<sup>th</sup></i>	<i>61<sup>st</sup></i>	<i>68<sup>th</sup></i>	<i>61<sup>st</sup></i>	<i>68<sup>th</sup></i>	<i>61<sup>st</sup></i>	<i>68<sup>th</sup></i>	<i>61<sup>st</sup></i>	<i>68<sup>th</sup></i>
Northern	54.47	34.93	41.61	18.57	26.68	9.51	11.31	4.76	27.62	12.79	26.07	12.98
Central	79.40	60.22	57.62	42.00	45.85	32.44	24.09	13.45	46.03	33.18	47.38	33.98
Eastern	68.29	55.03	56.88	35.21	49.37	29.96	32.31	18.54	45.71	28.88	52.38	31.10
North Eastern	27.37	25.63	43.72	25.23	31.42	30.94	35.98	31.32	28.93	26.66	49.71	38.49
Western	62.02	44.82	49.76	19.49	39.59	15.76	23.06	9.04	35.74	17.09	42.77	16.51
Southern	55.02	26.66	45.03	19.77	27.18	10.82	15.81	8.63	29.92	13.05	28.04	11.90
Total	62.25	45.7	51.31	29.87	38.41	21.5	23.06	12.54	38.22	22.78	43.42	25.49

*Source:* Authors estimate based on 61st and 68th round of NSS data.

## CONCLUSION

Poverty is one of the most serious issues being faced by any economy. In India context, poverty is measured in terms of a specified normative poverty line reflecting the minimum living standard of people. The official approach has laid emphasis on ensuring a subsistence minimum and hence, on eradicating absolute poverty. India still is a country having biggest concentration of poor people in the world and home a third of the world's poor. The study found higher the incidence of household poverty is 38.27 percent in 61st (2004-05) round & 22.75 percent in 68th (2011-12) round in the country. Meanwhile, among the socio-religious groups where larger the household poverty found in Scheduled Tribes and Scheduled Caste which is higher than OBC and Others and also Muslim households are comparatively poorer than Hindus. The study is request to the central government and as well as state government to start effective policy implementations should focus on development of education and self-employment in general; improve the quality of education in particular amongst rural households, with special emphasis on Scheduled Caste and Scheduled Tribe (ST) in the region. The central Government should properly plan and implement target budgeting at state level, and effective monitoring of outcome budget is necessary. To contain spatial variation in poverty and inequality the study suggests for improving infrastructure in agricultural sector which in turn increases income generation in the poverty affiliated regions.

### *Notes*

1. Planning Commission Report GoI, (2014)
2. 65-year old Planning Commission has been dissolved and a new institution name NITI (National Institution for Transforming India) Aayog has been constituted by the National Democratic Alliance (NDA) government in 1st January 2015.
3. Northern Region consists of 7 States i.e., Jammu & Kashmir, Himachal Pradesh, Punjab, Chandigarh, Haryana, Delhi & Rajasthan.
4. Central Region consists of 4 States i.e., Uttarakhand, Uttar Pradesh, Chhattisgarh & Madhya Pradesh.
5. Eastern Region consists of 4 States i.e., Bihar, West Bengal, Jharkhand & Orissa.
6. North Eastern Region consists of 8 States i.e., Sikkim, Arunachal Pradesh, Nagaland, Manipur, Mizoram, Tripura, Meghalaya & Assam.
7. Western Region consists of 5 States i.e., Gujarat, Daman & Diu, Dadra & Nagar Haveli, Maharashtra & Goa.
8. Southern Region consists of 7 States i.e., Andhra Pradesh, Karnataka, Lakshadweep, Kerala, Tamil Nadu, Pondicherry & Andaman & Nicobar Island.
9. MRP = consumption data for five non-food items viz., clothing, footwear, durable goods, education, and institutional medical expenses are collected using 365-day recall period and 30-day recall period for the remaining items.
10. [http://planningcommission.nic.in/reports/genrep/pov\\_rep0707.pdf](http://planningcommission.nic.in/reports/genrep/pov_rep0707.pdf)

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