

MEASURING HUMAN POVERTY IN INDIA AN INTER STATE ANALYSIS

Sharanjit Singh Dhillon^a, Prabhjot Kaur^b

^{a, b} Punjab School of Economics, Guru Nanak Dev University, Amritsar, India.

^a Corresponding author: dhillon_sharanjit@yahoo.co.in

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Abstract: Poverty has many dimensions and as such difficult to define in a simple way. Poverty may be defined as the inability of a person to get the minimum needs fulfilled with respect to consumption for leading a simple and healthy life. These minimum needs include food, clothing, housing, education and basic health requirements. It is the individual who suffers being poor. In the light of this paper examines the three types of deprivations viz longevity, knowledge and economic. Based on these deprivations, human poverty index (HPI) has been constructed for different Indian states. Paper concludes that states like Bihar, Uttar Pradesh, Orissa and Madhya Pradesh are the worst performing states in respect of these deprivations and HPI. Overtime from 1991 and 2005 not much change has been occurred in their position rather the gap between the best performing (with lesser deprivations) states like Kerala, Punjab, Gujarat, Haryana and Maharashtra and the worst performing states like Bihar, Uttar Pradesh, Madhya Pradesh, Orissa has widened on the basis of these deprivations. The worst performing states have higher proportion of deprived people in term of these deprivations. In spite of state intervention through many pro poor policies the worst performing states are not showing any signs of reduction in the proportion of people having either of these deprivations. It seems that the benefits of these policies are not reaching the poor due to inefficient administration and high levels of corruption prevailing in these states.

Keywords: Deprivation, Education, Human Development, Human Poverty, Poverty.

I. INTRODUCTION

Poverty has many dimensions and as such difficult to define in a simple way. Poverty is the inability of person to get the minimum needs fulfilled with respect to consumption for leading a simple and healthy life. These minimum needs include food, clothing, housing, education and basic health requirements. Thus, poverty is the state,

where a person is in want of basic necessities of human existence (Ganguli, 1971). It is the individual who suffers being poor. The capacity of a person to acquire the necessities of life divides the individuals into the category of economically well off and the poor. At the individual level, it inflicts perpetual hardship and suffering. At the national level it manifests as shortage of resources and non-availability of essential goods and services to meet the requirement of a growing population (Ramaswamy, 1980).

United Nations through its Human Development Reports since 1990 have brought into focus that the objective of development is to increase the capabilities of people to lead full, productive and satisfying life. What is of basic concern is the ability of people to lead a long and healthy life, to have access to knowledge and sufficient income to buy adequate amount of food, clothing, shelter and other basic amenities. Human Development Reports have identified three areas of social concern, viz., education, health and material well-being. Adult literacy rate for education, life expectancy at birth for health and per capita income for material well-being are the indicators used in arriving at the deprivation of the masses. The concept of Human

Poverty Index (HPI) introduced in the annual Human Development Report 1997, concentrates on deprivation in three basic elements of human life-longevity, knowledge and a decent living standard.

Deprivation in knowledge leads to human poverty, which further results in income poverty. Although income poverty decreased significantly at all India level still some states are having higher levels of poverty e.g. Orissa, Bihar and M.P. (Ramakrishna, 2007). Poverty is the sum total of a multiplicity of factors that included not just income and calorie intake but also access to land and credit, nutrition, health and longevity, literacy and education, safe drinking water, sanitation and other infrastructural facilities (Mehta and Shah, 2002). A vivid picture of

illiterate, hungry, malnourished, poverty-stricken and survival-oriented people is equally applicable to India.

This paper examines the deprivations in three basic elements of human life and work out the level of Human Poverty in the light of the experience of Indian states in 1991 and 2005. Specifically, the objectives of the study are: (a) To analyze the position of 26 Indian states on the basis of education, health, nutrition, sanitation and economic indicators responsible for human poverty. (b) To construct the Human Poverty Index (HPI) based on longevity deprivation (P_1), knowledge deprivation (P_2) and economic deprivation (P_3) and also to compare the positioning of 26 Indian States in terms of poverty. (c) To analyze the position of 15 major states of India on the basis of Human Development Index (HDI), Human Poverty Index (HPI) and per capita Gross State Domestic Product (GSDP).

II. DATA BASE AND METHODOLOGY

The aim of the present study is to compute the Human poverty index (HPI) for which secondary data were needed. The data on education, health, sanitation, nutrition and economic variables for 26 Indian states were collected from various publications like (i) National Human Development Report (2005) (ii) National family Health survey (NFHS I, II & III) (iii) Manpower profile (iv) Publications of office of the Registrar General of India and EPW research foundation etc.

The analysis was carried out for the year 1991 and 2005.

Selected Variables

Basically, 10 variables were used in the study for analysis and construction of HPI for the year 1991 and 2005. These variables are: Infant mortality rate per thousand of live births., Percentage of undernourished children proxied by weight for height below -2SD, Illiteracy rate (in per cent), Non-enrollment ratio (in per cent), Proportion of population below poverty line (in per cent),

P_2 has been calculated as

$$P_1 = \frac{(\text{IMR} + \text{weight for height \% age below} - 2\text{SD})}{2}$$

P_3 has been calculated as

$$P_3 = \frac{1}{6} \sum_{i=1}^6 P_{3i}$$

Population not fully vaccinated (in per cent), Population living in Kutcha houses (in per cent), Population without access to safe drinking water (in per cent), Population without access to electricity (in per cent), Population without access to toilet facility (in per cent)

III. METHODOLOGY

A simple technique of ratio, percentages and ranking along with tabular analysis were applied to analyze the data for achieving the desired objectives.

Human Poverty Index :For constructing the HPI, deprivation in health, knowledge and economic dimensions have been calculated on the basis of different indicators.

Longevity Deprivation (P_1): Longevity Deprivation (P_1) has been captured by using infant mortality rate and proportion of undernourished children, which has been proxied by proportion of children having weight for height below -2SD.

P_1 has been calculated as

Knowledge Deprivation (P_2): Knowledge or educational deprivation (P_2) has been calculated by using illiteracy rate and non-enrollment ratio. Thus, P_2 has been calculated by giving 35% weight to illiteracy rate for population in the age group of 7 years and above and, 65% weight has been given to the proportion of children not enrolled in schools.

$P_2 = (\text{illiteracy rate} \times 0.35) + (\text{non-enrollment ratio} \times 0.65)$

Economic Deprivation (P_3): Economic Deprivation (P_3) has been calculated by using the following indicators:

Proportion of population below poverty line (P_{31})
 Proportion of population not fully vaccinated (P_{32})
 Proportion of population living in Kutcha houses (P_{33})
 Population without access to safe drinking water (P_{34})
 Population without access to electricity (P_{35})
 Population without access to toilet facility (P_{36})

In order to construct Human poverty index (HPI) all the three deprivations viz: (P_1), (P_2) and (P_3) were given equal weight. Thus, HPI was constructed by using UNDP's formula.

$$HPI_j = \left[\frac{1}{3} \sum_{i=0}^3 P_i \right]^{1/3}$$

Where HPI is for the j^{th} state and P_i goes from 1 to 3 refers to the above three deprivations.

States were ranked according to value of HPI in 1991 and 2005. Over time and relative comparison of different states on the basis of different indicators and HDI, HPI and per capita Gross State Domestic Product (GSDP) was undertaken with the help of tabular analysis.

For this purpose the paper has been divided into 3 sections. Section I represents the computations of HPI for 26 Indian states for the years 1991 and 2005. Section II represents the relative comparison of 15 major Indian states with respect to HDI, HPI and per capita GSDP for 1991 and 2005. The whole discussion has been concluded in the section III.

IV. SECTION - 1

Following the UNDP's methodology, an attempt has been made to calculate the Human Poverty Index (HPI) based on three deprivations has been calculated for 26 Indian states for the year 1991 and 2005. For the purpose of calculating Human Poverty Index, deprivation on account longevity (P_1), deprivation on account knowledge (P_2), and economic deprivation (P_3) has been computed.

1. Longevity Deprivation

Longevity deprivation (P_1) was derived on the basis of infant mortality rate and child undernourishment. Longevity deprivation (P_1) for the year 1991 and 2005, along with difference in 2005 over 1991 is presented in table 1. Table shows that the value of P_1 had declined overtime, except in Haryana where it has increased by 11 per cent. Table also shows that Madhya Pradesh (78 in 1991 and 55.5 in 2005) was the worst performing state in both the years; however, it has shown the maximum improvement of 23 per cent over time. For the year 1991, Orissa (73.15), Himachal Pradesh (62.89), Uttar Pradesh (57.55), West Bengal (56), Rajasthan (53.25), Assam (51.4), Arunachal Pradesh (51.1), Andhra Pradesh (50), Tamil Nadu (49.85), Bihar (48.4), Gujarat (48.4), Maharashtra (47.1), Punjab (46.95) and Karnataka (45.7) were the other states having high longevity deprivation, however, longevity deprivation declined for these states in 2005. Over a

period of time, the improvements made by these 13 states lies between 11 to 30 per cent except the states of Bihar and Rajasthan where it was merely 4.35 and 9.05 per cent respectively.

Further, table shows that although the longevity deprivation for almost all the states has gone down overtime but it is also notable that the worst performing state (Madhya Pradesh) of 1991 remains the worst performing in 2005 as were and similarly the states with best performance in 1991 (Manipur and Kerala) still continues to be best in 2005.

2. Knowledge Deprivation

Knowledge deprivation (P_2), computed from illiteracy rate and non-enrollment ratio for the year 1991 and 2005 is presented in table 2. Table shows that the values of P_2 have declined overtime, except in the state of J & K, where it has increased by 10.76 per cent. Among the state's educational deprivation was highest for Bihar in both the years under consideration (58.77 in 1991 and 39.45 in 2005). Although, Bihar was the worst performing state in both the years, however, it has shown an improvement of 19.32 per cent over time from 1991 to 2005. For the year 1991, Rajasthan (56.9), Uttar Pradesh (56.84), Meghalaya (53.56), Arunachal Pradesh (53.07) and Madhya Pradesh (50.5) were the other states having high educational deprivation but the deprivation for these four states declined in 2005. Of these Rajasthan had shown better performance on this front. Furthermore, table shows that the gap between the worst performing states (Bihar, U.P) and best performing states (Kerala and Goa) has narrowed down overtime.

3. Economic Deprivation

Economic deprivation (P_3) or economic provisioning for the year 1991 and 2005 is presented in table 3. Table shows that by 2005 the proportion of population with economic deprivation had declined in all the states except in J & K. Among the states economic deprivation was highest in Bihar ((76.74) in 1991 and (55.05) in 2005). The other states for which deprivation was high in both the years were Andhra Pradesh, Arunachal Pradesh, Assam, Madhya Pradesh, Manipur, Meghalaya, Mizoram, Nagaland, Orissa, Rajasthan, Uttar Pradesh and West Bengal. Table highlights that even Kerala had a high proportion of economic deprivation (49.41 per cent) in 1991; however there was fast decline in the proportion of economically deprived population in 2005, and state was amongst the first three economically deprived states. Further, Delhi (11.38 per cent in 2005) was the state with least economic deprivation in the country.

State	Longevity Deprivation (P_1)		Difference in 2005 over 1991 (Per cent)
	1991	2005	
Andhra Pradesh	50	34.6	15.4
Arunachal Pradesh	51.1	26.15	24.95
Assam	51.4	40.85	10.55
Bihar	48.4	44.05	4.35
Goa	33.15	15.05	18.1
Gujarat	48.45	36.35	12.1
Haryana	28.95	39.55	-10.6
Himachal Pradesh	62.89	34.15	28.71
Jammu & Kashmir	7.4	32.4	-25
Karnataka	45.7	33.8	11.9
Kerala	26.8	14.95	11.85
Madhya Pradesh	78	55.5	22.5
Maharashtra	47.1	26.25	20.85
Manipur	18.4	11	7.4
Meghalaya	49.45	39.85	9.6
Mizoram	27.6	14.5	13.1
Nagaland	31.85	15.65	16.2
Orissa	73.15	47.25	25.9
Punjab	46.95	26.6	20.35
Rajasthan	53.25	44.2	9.05
Sikkim	40	19.85	20.15
Tamil Nadu	49.85	29.6	20.25
Tripura	49.75	27.8	21.95
Uttar Pradesh	57.55	43.9	13.65
West Bengal	56	27.45	28.55
Delhi	34	9.2	24.8

Table 1: Longevity Deprivation (P_1) Captured by the Infant Mortality Rate & Undernourished Children: 1991 & 2005.

Note: A positive difference indicates that the longevity deprivation (P_1) has improved; over time and a negative value indicate deterioration.

Furthermore, it was found that the gap between Bihar (the worst performing state) and Delhi (the best performing state) has widened over time. Indices on three aspects of deprivation viz. health (P_1), knowledge (P_2) and economic (P_3) have been used to construct the composite index of deprivation, called human poverty index. The values of the Human poverty Index (HPI) for the year 1991 and 2005 are presented in table 4 and 5 respectively. Further, the ranking of different states for the Human Poverty Index has been presented in table 6. Table shows that for the year 1991, Madhya Pradesh (62.49) was the worst performing state in terms of HPI followed by Maharashtra (59.74), Uttar Pradesh (57.08), Rajasthan (55.74), Bihar (55.73) and Arunachal Pradesh (52.43). On the other hand J&K was the best performing state in 1991 followed by Kerala, Goa and Delhi. Manipur, Tamil Nadu, and Punjab are

other major states with low HPI in the years 1991. Further, in the year 2005 Bihar (47.11) was the worst performing state. Other states with very high HPI in 2005 were Madhya Pradesh (45.88), Orissa (43.72), Uttar Pradesh (42.24) and Rajasthan (38.59). On the other hand Delhi was the best performing state with lowest HPI, followed by Kerala, Goa, Sikkim and Mizoram. Overtime, the HPI rank for Bihar deteriorated from 22 to 26 and Assam fell from 17th position to 21st, in case of Maharashtra HPI rank improved from 25th position to 7th position. However, Goa, Kerala and Meghalaya remained at the same level in terms of HPI from 1991 to 2005.

It is clear from the table that although the values of HPI had declined for most of the states by the year 2005 but the decline was more significant in case of Maharashtra, Himachal Pradesh, Arunachal Pradesh and West Bengal.

State	Knowledge Deprivation (P_2)		Difference in 2005 over 1991 (Per cent)
	1991	2005	
Andhra Pradesh	49.17	22.52	26.65
Arunachal Pradesh	53.07	16	37.07
Assam	45.93	16.63	29.3
Bihar	58.77	39.45	19.32
Goa	17.21	6.30	10.91
Gujarat	36.16	10.82	25.34
Haryana	36.48	25.67	10.81
Himachal Pradesh	25.94	8.23	17.71
Jammu & Kashmir	13.95	24.71	-10.76
Karnataka	45.72	13.07	32.65
Kerala	8.66	6.18	2.48
Madhya Pradesh	50.5	12.71	37.79
Maharashtra	30.23	8.09	22.14
Manipur	40.03	10.33	29.7
Meghalaya	53.56	13.09	40.47
Mizoram	25.41	3.92	21.49
Nagaland	40.33	25.94	14.39
Orissa	46.74	14.49	32.25
Punjab	34.24	27.80	6.44
Rajasthan	56.9	13.86	43.04
Sikkim	36.81	10.92	25.89
Tamil Nadu	29.48	9.28	20.2
Tripura	38.02	9.38	28.64
Uttar Pradesh	56.84	22.48	34.36
West Bengal	45.03	17.33	27.7
Delhi	22.23	6.41	15.82

Table 2: Knowledge Deprivation Captured by the Illiteracy Rate and Non-enrollment Ratio: 1991 and 2005 (Note: A positive difference indicates that the knowledge deprivation (P_2) has improved overtime and a negative value indicates deterioration).

V. SECTION - 2

In this section, fifteen major states have been ranked according to HDI, HPI and per capita GSDP. The relative performance of each state in the context of these indices has been analyzed for the years 1991 and 2005. For a better understanding, the states are classified on the basis of their ranks. Hence, states with ranks 1 to 5 could be considered to be better performers than others and those with ranks 11 to 15 as worst performers. HDI, HPI and per capita GSDP for major states in 1991 are presented in table 7. Table shows that HDI was 0.381 for the country as a whole whereas HPI and per capita GSDP were (49.47) and Rs. 2391 respectively. For the year 1991, Kerala {with HDI (0.591) and HPI (18.99)} occupied first position amongst major states while in terms of per capita GSDP (Rs. 2128), this state was ranked 9th. Punjab, which was at the top in terms of per capita

GSDP (Rs. 4289), ranks 2nd in terms of HDI (0.475) but 4th in HPI (39.42). Haryana on the other hand ranked 2nd in terms of HPI and GSDP and fifth in terms of HDI. Tamil Nadu occupied 3rd rank in terms of both HDI (0.466) and HPI (38.79) and 5th according to GSDP per capita for the year 1991. Further, Gujarat occupied 4th rank in terms of per capita GSDP whereas its rank on HDI and HPI was 6th and 5th respectively. Table also shows that Bihar, Orissa, Assam, Uttar Pradesh, Rajasthan and Madhya Pradesh were worst performing states in terms all three measures. Of these states, Bihar in terms of HDI (0.308) and GSDP per capita (Rs. 1291) was at the bottom (15th rank) whereas in case of HPI, its rank was 11th. On the other hand Madhya Pradesh in terms of HPI (62.49) occupied 15th rank whereas in terms of HDI and GSDP it ranked 12th and 13th respectively

State	Economic Deprivation (P_3)		Difference in 2005 over 1991 (Per cent)
	1991	2005	
Andhra Pradesh	53.17	30.67	22.5
Arunachal Pradesh	57.27	36.95	20.32
Assam	67.47	46.15	21.32
Bihar	71.83	55.05	16.78
Goa	36.76	17.88	18.88
Gujarat	41.85	27.72	14.13
Haryana	42.38	24	18.38
Himachal Pradesh	39.20	24.43	14.77
Jammu & Kashmir	9.91	25.25	-15.34
Karnataka	48.36	30.88	17.48
Kerala	49.41	15.80	33.61
Madhya Pradesh	61.85	48.88	12.97
Maharashtra	42.19	29.72	12.47
Manipur	61.09	36.83	24.26
Meghalaya	69.75	40.22	29.53
Mizoram	50.67	27.47	23.2
Nagaland	62.87	40.25	22.62
Orissa	70.11	52.18	17.93
Punjab	27.45	18.27	9.18
Rajasthan	56.10	43.70	12.4
Sikkim	40.94	22.65	18.29
Tamil Nadu	46.55	23.67	22.88
Tripura	49.92	35.17	14.75
Uttar Pradesh	62.98	50.68	12.3
West Bengal	53.74	35.17	18.57
Delhi	22.11	11.38	14.97

Table 3: Economic Deprivation (P_3) captured by the Proportion of Population-below poverty line, not full vaccinated, living in kutcha houses, without safe drinking water, sanitation and electricity: 1991 & 2005

Note: A positive difference indicates that the economic deprivation (P_3) has improved over time and a negative value indicates deterioration

State	P_1	P_2	P_3	P_1^3	P_2^3	P_3^3	$\sum_{i=1}^3 P_i^3$	$\frac{\sum_{i=1}^3 P_i^3}{3}$	$\sqrt[3]{\frac{\sum_{i=1}^3 P_i^3}{3}}$
Andhra Pradesh	50.00	49.17	53.167	125000.00	118877.76	150285.921	362755.520	120918.51	49.44977
Arunachal Pradesh	51.10	53.07	57.270	133432.83	149467.66	187837.176	432368.150	144122.717	52.42971
Assam	51.40	45.93	67.468	135796.74	96892.31	307114.234	329581.360	109860.453	47.89393
Bihar	48.40	58.77	71.833	113379.90	202986.46	370661.995	519352.820	173117.607	55.73317
Goa	33.15	17.21	36.762	36429.28	5097.32	49680.457	46623.920	15541.307	24.95528
Gujarat	48.45	36.16	41.847	113731.65	47280.84	73279.519	208293.330	69431.110	41.1009
Haryana	28.95	36.48	42.382	24263.06	48547.23	76126.190	121357.520	40452.507	34.328
Himachal Pradesh	62.89	25.94	39.195	248739.51	17454.60	60213.241	283648.710	94549.570	45.5568
Jammu & Kashmir	7.40	13.95	9.912	405.22	2714.70	973.733	5834.620	1944.873	12.48237
Karnataka	45.70	45.72	48.355	95443.99	95569.35	113063.952	286582.690	95527.563	45.71333
Kerala	26.80	8.66	49.410	19248.83	649.46	120627.010	20547.750	6849.250	18.99099
Madhya Pradesh	78.00	50.50	61.845	474552.00	128787.62	236545.005	732127.240	244042.413	62.49162
Maharashtra	47.10	30.23	42.185	104487.11	267625.00	75071.339	639737.110	213245.703	59.74388
Manipur	18.40	40.03	61.085	6229.50	64144.10	227931.178	134517.700	44839.233	35.52652
Meghalaya	49.45	53.56	69.748	120920.20	153646.15	339313.785	428212.500	142737.500	52.2612
Mizoram	27.60	25.41	50.670	21024.57	16406.42	130092.636	53837.410	17945.803	26.18108
Nagaland	31.85	40.33	62.870	32309.35	65597.10	248502.282	163503.550	54501.183	37.91421
Orissa	73.15	46.74	70.105	39149.98	102109.49	344545.816	243368.960	81122.987	43.28937
Punjab	46.95	34.24	27.445	103492.00	40142.20	20672.343	183776.400	61258.800	39.42056
Rajasthan	53.25	56.90	56.103	150993.70	184220.00	176589.955	519433.700	173144.567	55.73606
Sikkim	40.00	36.81	40.943	64000.00	49876.67	68635.625	163753.340	54584.447	37.9335
Tamil Nadu	49.85	29.48	46.550	123878.37	25620.19	100869.311	175118.750	58372.917	38.79155
Tripura	49.75	38.02	49.922	123134.35	54958.68	124413.420	233051.710	77683.903	42.66879
Uttar Pradesh	57.55	56.84	62.975	190605.74	183637.85	249749.443	557881.440	185960.480	57.07863
West Bengal	56.00	45.03	53.743	175616.00	91307.37	155229.335	358230.740	119410.247	49.24331
Delhi	34.00	22.23	22.108	39304.00	10985.46	10806.076	61274.920	20424.973	27.33509

Table 4: Human Poverty Index Based on P_1 , P_2 , P_3 , for the year 1991

State	P_1	P_2	P_3	P_1^3	P_2^3	P_3^3	$\sum_{i=1}^3 P_i^3$	$\frac{\sum_{i=1}^3 P_i^3}{3}$	$\sqrt[3]{\frac{\sum_{i=1}^3 P_i^3}{3}}$
Andhra Pradesh	34.6	22.5155	30.6667	41421.74	11414.18	28840.2963	81676.22	27225.41	30.08325
Arunachal Pradesh	26.15	15.9950	36.9500	17881.96	4092.16	50447.9274	72422.05	24140.68	28.90124
Assam	40.85	16.6280	46.1500	68167.31	4597.48	98291.3084	171056.10	57018.7	38.48922
Bihar	44.05	39.4540	55.0500	85474.73	61414.81	166829.1626	313718.74	104572.9	47.11289
Goa	15.05	6.3000	17.8833	3408.863	250.05	5719.3334	9378.25	3126.082	14.62178
Gujarat	36.35	10.8150	27.7167	48030.07	1264.97	21292.3206	70587.36	23529.12	28.6551
Haryana	39.55	25.6715	24.0000	61864.21	16918.18	13824.0000	92606.39	30868.8	31.36943
Himachal Pradesh	34.15	8.2250	24.4333	39826.5	556.43	14586.4014	54969.33	18323.11	26.3633
Jammu & Kashmir	32.4	24.7140	25.2500	34012.22	15094.86	16098.4531	65205.53	21735.18	27.90751
Karnataka	33.8	13.0745	30.8833	38614.47	2234.99	29455.9142	70305.37	23435.12	28.61689
Kerala	14.95	6.1815	15.8000	3341.362	236.20	3944.3120	7521.87	2507.291	13.58527
Madhya Pradesh	55.5	12.7050	48.8833	170953.9	2050.80	116810.6492	289815.30	96605.1	45.88457
Maharashtra	26.25	8.0850	29.7167	18087.89	528.49	26242.2023	44858.58	14952.86	24.63626
Manipur	11	10.3250	36.8333	1331	1100.70	49971.5787	52403.28	17467.76	25.94652
Meghalaya	39.85	13.0900	40.2167	63282.7	2242.95	65045.6435	130571.29	43523.76	35.17565
Mizoram	14.5	3.9200	27.4667	3048.625	60.24	20721.3416	23830.21	7943.402	19.95272
Nagaland	15.65	25.9380	40.2500	3833.037	17450.56	65207.5156	86491.12	28830.37	30.66315
Orissa	47.25	14.4945	52.1833	105488.6	3045.16	142100.4495	250634.16	83544.72	43.71592
Punjab	26.6	27.8040	18.2667	18821.1	21494.23	6095.0590	46410.39	15470.13	24.91713
Rajasthan	44.2	13.8600	43.7000	86350.89	2662.50	83453.4530	172466.84	57488.95	38.59474
Sikkim	19.85	10.9200	22.6500	7821.347	1302.17	11619.9596	20743.48	6914.492	19.0511
Tamil Nadu	29.6	9.2750	23.6667	25934.34	797.89	13255.9630	39988.19	13329.4	23.71029
Tripura	27.8	9.3800	35.1667	21484.95	825.29	43490.4213	65800.66	21933.55	27.99215
Uttar Pradesh	43.9	22.4840	50.6833	84604.52	11366.34	130195.3607	226166.26	75388.75	42.24437
West Bengal	27.45	17.3275	35.1667	20683.64	5202.45	43490.4213	69376.51	23125.5	28.4903
Delhi	9.2	6.4050	11.3833	778.688	262.76	1475.0555	2516.50	838.8343	9.431021

Table 5: Human Poverty Index Based on P_1 , P_2 , P_3 , for the year 2005

HDI, HPI and per capita gross state domestic product for 15 major states for the year 2005 is presented in table 8. Table shows that Kerala, which was the top performer in terms of HDI (0.814) and HPI (28.62), was not at the top economically ranked fifth in terms of per capita GSDP. Haryana was at the top in terms of GSDP per capita (Rs. 45975). Further, Punjab

occupied 4th rank behind Maharashtra in terms of HDI and HPI and 3rd in terms of per capita GSDP. On the other hand Maharashtra ranked 3rd in terms of HDI and HPI but was at 2nd position in terms of GSDP per capita. Tamil Nadu which was ranked 2nd in terms of HPI (23.71) but occupied 5th rank for HDI and 6th for per capita GSDP for the year 2005.

State	Human Poverty Index			
	1991		2005	
	Value	Rank	Value	Rank
Andhra Pradesh	49.45	19	30.08	17
Arunachal Pradesh	52.43	21	28.90	16
Assam	47.89	17	38.49	21
Bihar	55.73	22	47.11	26
Goa	24.96	3	14.62	3
Gujarat	41.10	12	28.66	15
Haryana	34.33	6	31.37	19
Himachal Pradesh	45.56	15	26.36	10
Jammu & Kashmir	12.48	1	27.91	11
Karnataka	45.71	16	28.62	14
Kerala	18.99	2	13.59	2
Madhya Pradesh	62.49	26	45.88	25
Maharashtra	59.74	25	24.64	7
Manipur	35.53	7	25.95	9
Meghalaya	52.26	20	35.18	20
Mizoram	26.18	4	19.95	5
Nagaland	37.91	8	30.66	18
Orissa	43.29	14	43.72	24
Punjab	39.42	11	24.92	8
Rajasthan	55.74	23	38.59	22
Sikkim	37.93	9	19.05	4
Tamil Nadu	38.79	10	23.71	6
Tripura	42.67	13	27.99	12
Uttar Pradesh	57.08	24	42.24	23
West Bengal	49.24	18	28.49	13
Delhi	27.34	5	9.43	1

Table 6: Human Poverty Index For India: 1991 & 2005

* The value of HPI (1991) for the states of Jammu & Kashmir and Sikkim are based on only 4 and 9 variables respectively.

Table also shows that Gujarat was at 4th position in terms of per capita GSDP (Rs. 39649), 7th in terms of HDI and HPI. Furthermore, Assam, Bihar, Madhya Pradesh, Uttar Pradesh and Orissa were the five states, which were again worst performing states in terms of HDI, HPI and GSDP for the year 2005. Of these worse off states Bihar in terms of HDI (0.449), HPI (47.11) and per capita Gross State Domestic Product (Rs. 8838) was at the bottom (15th position), thus indicating poorer performer amongst all the 15 major states.

Overtime comparison shows that the gap between the worst performing state and best performing state in terms of Human development Index and Human

poverty Index has narrowed down. Whereas in case of per capita gross state domestic product the gap between the richest state (Haryana) and the poorest state (Bihar) has widened. As compared to the year 1991, these fifteen major states had experienced some changes in their position in the year 2005. Worst performing states in terms of HDI, HPI and GSDP in 1991 remained the worst performer in 2005 also. These states were namely Bihar, Madhya Pradesh, Orissa, U.P, Rajasthan and Assam. Further, according to HDI, HPI and per capita GSDP six states - Kerala, Punjab, Haryana, Gujarat, Tamil Nadu and Maharashtra were the best performers in both the years.

State	1991					
	HDI		HPI		Per capita GSDP (Rs.)	
	Value	Rank	Value	Rank	Value	Rank
Andhra Pradesh	0.377	9	49.45	10	2365	8
Assam	0.348	10	47.89	8	1736	13
Bihar	0.308	15	55.73	11	1291	15
Gujarat	0.431	6	41.10	5	2793	4
Haryana	0.443	5	34.33	2	3872	2
Karnataka	0.412	7	45.71	7	2531	6
Kerala	0.591	1	18.99	1	2128	9
Madhya Pradesh	0.328	13	62.49	15	1802	12
Maharashtra	0.452	4	59.74	14	3756	3
Orissa	0.345	12	43.29	6	1705	14
Punjab	0.475	2	39.42	4	4289	1
Rajasthan	0.347	11	55.74	12	1996	10
Tamil Nadu	0.466	3	38.79	3	2558	5
Uttar Pradesh	0.314	14	57.08	13	1829	11
West Bengal	0.404	8	49.24	9	2480	7
All India	0.381		49.47		2391	

Table 7: Relative Performance of 15 Major States on HDI, HPI & Per Capita GSDP: 1991

Source: HDI-UNDP, National Human Development Report, (2005), Planning Commission, India, HPI-Own Calculations, Per Capita GSDP-EPW Research Foundation, Domestic Product of States of India.

State	2005					
	HDI		HPI		Per capita GSDP (Rs.)	
	Value	Rank	Value	Rank	Value	Rank
Andhra Pradesh	0.572	9	30.08	8	28908	8
Assam	0.534	11	38.49	10	20186	11
Bihar	0.449	15	47.11	15	8838	15
Gujarat	0.621	7	28.66	7	39649	4
Haryana	0.644	6	31.37	9	45975	1
Karnataka	0.600	8	28.62	6	31271	7
Kerala	0.814	1	13.59	1	35601	5
Madhya Pradesh	0.488	13	45.88	14	17649	13
Maharashtra	0.689	3	24.64	3	42056	2
Orissa	0.452	14	43.72	13	20250	10
Punjab	0.676	4	24.92	4	41420	3
Rajasthan	0.537	10	38.59	11	20095	12
Tamil Nadu	0.675	5	23.71	2	34424	6
Uttar Pradesh	0.490	12	42.24	12	15383	14
West Bengal	0.625	2	28.49	5	27821	9
All India	0.575		33.89		29678	

Table 8: Relative Performance of 15 Major States on HDI, HPI & Per Capita GSDP: 2005

Source: HDI – Meghalaya State Development Report, HPI – own Calculations, per capita GSDP – National Accounts Statistics 2008.

VI. CONCLUSIONS

It is clear from the above discussions in respect of the position of states based on different indicators used for the computation of human poverty index in 1991 and 2005, that the gap between the worst performing state and best performing state had narrowed down. Among the ten indicators it was only for proportion of population living in Kutch houses where the gap between worst performing state and state with best performance has widened in 2005 over 1991. On the other hand this gap has narrowed down in case of Infant mortality rate per thousand live births, percentage of children as undernourished, illiteracy rate, non-enrollment ratio, population BPL, population not fully vaccinated and population without access to basic amenities. In all the 26 Indian states were ranked according to composite index of human poverty calculated on the basis of three deprivations viz longevity deprivation (P_1), knowledge deprivation (P_2), and economic deprivation (P_3). It was found that there was improvement in ranks for 41.6 per cent of state, deterioration of ranks for 30.76 per cent of states and ranks remained same for the remaining 19.23 per cent of states. Further, there was improvement in the ranks of some of the major states of India. It was found that the ranks of fifteen major states of India according to Human Development Index, Human Poverty Index and per capita gross state domestic product did not remain same in 2005 as compared to 1991. But it is also notable that, worst performing states performed worst and best performing state remained the best in 2005 as compared to the year 1991.

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ABOUT THE AUTHORS

Sharanjit Singh Dhillon
Professor
Punjab School of Economics, Guru Nanak Dev University, Amritsar (India) -143005
e-mail: dhillon_Sharanjit@yahoo.co.in

Prabhjot Kaur
Research Fellow
Punjab School of Economics, Guru Nanak Dev University, Amritsar (India) -143005
e-mail: prabhjot_economics@yahoo.com

