



Review Paper

A quantitative analysis of social and economic development among Indian states

S.N. Nandy

HARSAC, CCS Haryana Agricultural University Campus, Hisar-125004, India
nandy.sn@gmail.com

Available online at: www.isca.in, www.isca.me

Received 9th September 2020, revised 1st December 2020, accepted 12th March 2021

Abstract

Economic growth has a direct relationship with social development of a country as a whole. But the growth of economy is not always equitable to its social counterparts and often the development is concentrated in some areas/regions. The quantification of social progress is much complex and combination of multiple parameters as compared to the economic development, which has several well-defined measurement criteria across the world. The present paper is an effort to quantify the social progress made by the states of India with respect to their economic growth. The common trend observed that the states with larger economy leads to achieve higher social progress. Though some states having meager economy, performed moderately in social front. Kerala is the best example of it, as the state having comparatively lower NSDP, scored top in social progress. Other notable progress on social front has been done by the states like Tamil Nadu, Himachal Pradesh, Uttarakhand, Punjab and Sikkim. Though such analyses require a long term time-series data on various parameters to find out the causal relationship between economic growth and social progress. Moreover, higher economic growth is not always contributing the social progress equally for every region/sectors of the society. The paper presents a detailed compilation of some socio-economic parameters including GDP per capita, its growth rate, unemployment rate, poverty line population in rural/urban areas, human development index and their distribution across the states. The information presented in the paper is a dispersal outline of above mentioned parameters in readily available module, which could be used as a reference by the stakeholders and administrator/planners for their valued judgement and assessment.

Keywords: Economic growth, GDP, NSDP, SPI, HDI, Gini coefficient.

Introduction

Nobel Laureate Professor Amartya Sen has argued that sustainable high growth has to be judged the impact of economic growth on lives and freedom of citizen. The argument is debatable for discussion; however, it opened the boundary of the conceptual social welfare across the world. The concept of human development was also profound mainly by Prof. Amartya Sen and Mahbub-ul-Haq in late last century. In this context, the welfare state is a concept of government where a state presumes to protect and promote the economic and social well-being for its citizens. To realize this noble concept the government needs to assess the development indicators of economic and social well-being of the state. Economics suggests various aggregation measures like gross domestic product (GDP), gross national product (GNP) or relative income measure (like per capita income) as development indices to quantify the economic development of a country or a region. But the higher value of these indices are not always supplemental in fulfilment of basic need of human life and as a consequence, there are clear distinction between these economic measures and well-being of inhabitant¹. In quantifying well-being of people, Bhutan is the pioneer in calculating their country's gross

national happiness (GNH) instead of GNP as development indicator, which has been attracted global attention. This GNH index is based on four main constituents *viz.* good governance, sustainable socio-economic development, cultural preservation and environmental conservation². Globally, the World Happiness Report (WHR) is a landmark survey has been done by Sustainable Development Solutions Network (SDSN) of United Nation. This global happiness index is based on six major parameters *viz.* real GDP per capita, healthy life expectancy, social support, generosity, liberty in life choices and perception of corruption. Countries like Denmark, Switzerland, Norway and Finland occupied top slot in WHR 2018 among 156 countries surveyed world-wide³. However, there are arguments and counter arguments between economic growth and well-being/happiness index. For instance, the under-developed economy of African countries (few exceptions like South Africa, Nigeria, etc.) performed poorly in happiness index justified the positive relationship between economic growth and social well-being. On the other hand the counter argument is that, if GDP would have been the factor leading to national well-being, then booming economies of USA and China would have occupied the top position in WHR.

Hence, economic growth is one of the aspects that contribute in the process of economic development along with other aspects of development economics. In larger perspective, the processes of economic development include implement policies through which a nation improves its economy, infrastructure, geo-political governance, and social well-being of its citizens.

India is a vast country having diverse distribution of natural and biological resources. There exist significant inter-state (among states) and intra-state (within a state) disparities mainly due to the regional diversity and unequal distribution of resources across the regions⁴. The scope of this article is to compile, quantify and assess some economic, social, human development indices and not to measure the subjective well-being or life satisfaction across the country. The paper analyzes some selected parameters of social and economic disparities across the states of India. It also maps the spatial distribution of some socio-economic, human development indicators and assesses them across the different region/states of the country. The paper is an attempt to map the economic indicators, whether the higher economic resources are contributing to the social development and quality of life equally/perfectly or the process of development is concentrated to certain part/segments of the country.

Review of literature: Development planning is a multi-dimensional phenomenon which improves the quality of life, such as health services, education level, food/nutrition, degree of modernization, status of women, housing infrastructure, distribution of infrastructural services, and access to communication/amenities, etc. Several studies have been carried out to measure and analyze the location specific socio-economic development time to time in India. In a comprehensive study by Pal and Ghosh analyses the types and patterns of inequality and poverty in India since the economic liberalization in early 1990s, and the evidence suggests increase in inequality as well as persistent poverty⁵. The detailed study reveals the fact of post independence and post liberalization economic reforms and its impact on the country. About forty years after India's independence, the country followed a developmental policy based on central planning keeping in view of socialist path and from mid-1980s, the government gradually shifted the focus towards market oriented economic reforms. The pace of policy change accelerated during early 1990s, when the neo-liberal reform programs initiated with intensive economic liberalization. This has changed the approach towards state intervention in the economy. The paper gives an overview on the roots of inequality since the mid-1990s and explains the observed trends. It is noteworthy that during this reform period, the urban inequality in India was much higher than the rural inequality for most of the states. There was a sharp rise in regional inequality in India during 1990s and the gap between the richest and poorest state has increased considerably. In 2002-03, the per capita net state domestic product (NSDP) of Punjab, one of rich state was about 4.7 times than that of Bihar, the poorest state in the country. However, the measuring

parameters of national sample survey (NSS) statistics are debatable, but the trend of inequality measure like Gini coefficient grew steadily in India after liberalization. The authors express that one of the reasons behind this increase in the post-reform period is the stagnation of employment generation in both rural and urban India. The diminishing employment elasticity in agriculture sector has also been associated with a steady and significant increase in casualization of the labour force. However, the service sector performed relatively better during this period, as the employment growth rate in this sector was higher than that of other sectors of the economy. Liberalization of trade has facilitated some sectors where India is internationally competitive, but negatively affected the other sectors like agriculture, small and medium enterprises, where there are scopes of immense of employment.

In 1999, Prof. Dreze and Sen present an analysis of endemic deprivation in India and the role of public action in addressing the problem⁶. The analysis is based on a broad view of economic development, focusing on human well-being and social responsibility rather than the standard indicators of economic growth. India's success in reducing deprivation since independence has been limited. Authors argue that an assessment of India's descent to eliminate basic deprivations has to go beyond this limited focus, and should pay attention on public involvement in providing basic education, health care and social security. The authors also discuss the fostering of fast and participatory economic growth requires some basic social change, which has not been addressed by liberalization and economic incentives⁶. Another study by Akbar (2011) on changing trend of human resource development index in context to Indian economy for 30 years period (1980-2010) has been carried out⁷. This study considers the relationship between GDP and three indicators of human development such as life expectancy, health and education⁷.

In a study carried out by Das (1999) reveal that the progress of socio-economic development among major states in India is not uniform⁸. The study examines the existing variation of inter-state development and thereby identifying the indicators responsible for this variability. Instead of studying the variability of a particular variable across states, a composite index based on several indicators has been developed using principal component analysis (PCA) and states are ranked according to the indices derived using broad components like level of economic development; common minimum needs; health-related services and communication etc. The states in India are marked with wide disparity in socio-economic development. The author argues for expanding GNP and other related variables of economic growth with focus on the expansion of human capabilities⁸.

In a district level study of regional socio-economic disparities in India by Ohlan (2013) assessed the level of development in three sectors *viz.* agriculture, industrial and infrastructure. The study classified districts into four categories according to the

values (range) of the constructed development index⁹. An attempt has also been made to compare the levels of socio-economic development among various regions in India. The constructed socio-economic development index shows that southern part of India is more symmetrically developed as compared to central and northern parts. The result also shows the wide disparities in the level of socio-economic development among different districts as well as regions of India. The level of industrial development has a limited impact on the overall socio-economic development, particularly in northern and central parts of India⁹.

All these studies depict the country's growth narrative in the economic front with some regional and state/district level analysis. But does these parameters of economic growth is really contributing to the social development and level of human living in the country? Whether this economic growth is converging or diverging some region-specific development or distributed equally throughout the country? An economically rich state may have higher social index, but whether a marginal economy may attain the same level of development in social front? The present paper is an attempt to study and quantify some economic parameters and its consequence in social development across the states of the country.

Methodology

The present study is based on (or derived from) secondary sources collected from Census of India, Planning Commission (now NITI Aayog), National Sample Survey Office (NSSO), Central Statistical Organisation (CSO), Ministry of Labour & Employment, Institute for Competitiveness (IFC), etc. The available data in various parameter like, GDP, net state domestic product (NSDP), growth rate, poverty estimation, per capita allocation, consumption expenditure, income group, social progress index (SPI), human development index (HDI) have been compiled state-wise and presented for statistical inferences. Often these gross economic measures cannot assess the availability of resources with the inhabitants, so the relative economic measure like per capita NSDP, per capita consumption expenditure (MPCE) has also been used as relative development indices. The HDI ranges from very high (above 0.75) to very low (below 0.6) for Indian states is based on UN method, whereas unlike US based SPI, the social progress has been calculated for Indian states based on the composite index of basic human need, foundation of well-being and opportunity to progress.

To depict the dispersion in distribution the Gini coefficient which is popular measure of inequality, has been used. To quantify the coefficient the cumulative percentage of one variable (say 'x') upto certain points are plotted on graph against the cumulative percentage of other variable (say 'y') upto the same point. The different points thus obtained are joined by smooth curve (Lorenz curve) and if the curve coincides with equality line (drawn by joining first and last

point), then the distribution is said to be perfectly equal. In that case the area bounded by Lorenz curve and equality line tends to zero, which is supposed to be perfectly ideal distribution¹⁰. However, this is the rare case and probability of such case tends to be zero. Mathematically the Gini coefficient (G) has been derived by the following formula:

$$G = \frac{i=0 \sum^{i=n} x_i y_{i-1} - i=0 \sum^{i=n} x_{i+1} y_i}{\dots}$$

Or

$$G = [(x_0.y_1 - x_1.y_0) + (x_1.y_2 - x_2.y_1) + (x_2.y_3 - x_3.y_2) + \dots + (x_n.1 - 1.y_n)]$$

'G' ranges from 0 to 1 (0 to 100%) and indicates perfectly equal to absolutely unequal distribution, respectively.

For projection of futuristic data, the exponential growth rate of historical time-series data have been used. The projected value (Y) has been calculated using the formula $y = b * m^x$, where m is the growth rate of the exponential curve and b is the y-intercept. The 'x' values are frequently used date/time-series numbers or counters. The implicit projections are based on the previous/past year's data (time-series data) and are not based on the current performance/activities initiated by the respective state. State-wise GSDP has been projected based on time-series data of 15 years (2001-02 to 2014-15) using exponential growth rate. However, the projected figure may differ from the actual because the economic growth is subjected to influence by many internal and external factors. The state ID has been used to integrate these attributes with the spatial data (state boundaries) using GIS software and presented in the form of state-wise distribution map.

Socio-economic profile of India: India contribute over 17% of world population, the second largest populous nation and sixth largest economy in the world. The inhabitation of India is primarily rural (about 68.85 percent rural population in 2011 census) and most of the people in large states resides in rural areas. However, in some smaller states and union territories (UTs) majority of people live in urban areas. A significant percentage of population of the country is poor and about 21.9 percent of total population lives under below poverty line (BPL). In almost all the major states (except Punjab), most of the BPL population are rural habitat (Table-2).

It is evident that industrialization induced urbanization has lift-up a large number of population from BPL across the world. In India, higher urbanization rate has opened up more livelihood options and dependency on primary sector has reduced in urbanized states. In contrast the rural states, where most of the people depend on primary sector are comparatively poorer and number of BPL population is quite large in these states. For example states like Bihar, Jharkhand, Madhya Pradesh, Chhattisgarh, Odisha, Uttar Pradesh are inhabited mostly by rural and having a large chunk of BPL population. Northern

state of Punjab, Haryana, Uttarakhand and Himachal Pradesh where rural development has taken place, has registered less number of BPL population (below 12 percent of total population). The BPL population in western part of the country (mainly Maharashtra, Gujarat and Rajasthan) is also lower than the national average (21.9 percent) as estimated on 2011-12 as per Tendulkar Methodology. Rajasthan has shown a better economic development in the last decade among BIMARU (BIMARU refers to four grossly under-developed states of Bihar, Madhya Pradesh, Rajasthan and Uttar Pradesh). It was coined by prominent demographer and economic analyst Prof.

Ashish Bose, in the mid-1980s. BIMARU has a resemblance to a Hindi word “Bimar” which means sick) states. In contrast, Odisha, Jharkhand and Chhattisgarh exhibit most of the characteristics of BIMARU states. Kerala, Karnataka and Andhra Pradesh performed well in terms of poverty reduction during last decade. The geographically isolated north-east (NE) part of India are mostly inhabited by rural (except Mizoram) and having a dispersed population due to its hills and mountains of folded topography. Among these 8 NE states the BPL population of Sikkim, Meghalaya and Tripura has recorded lower than the national average.

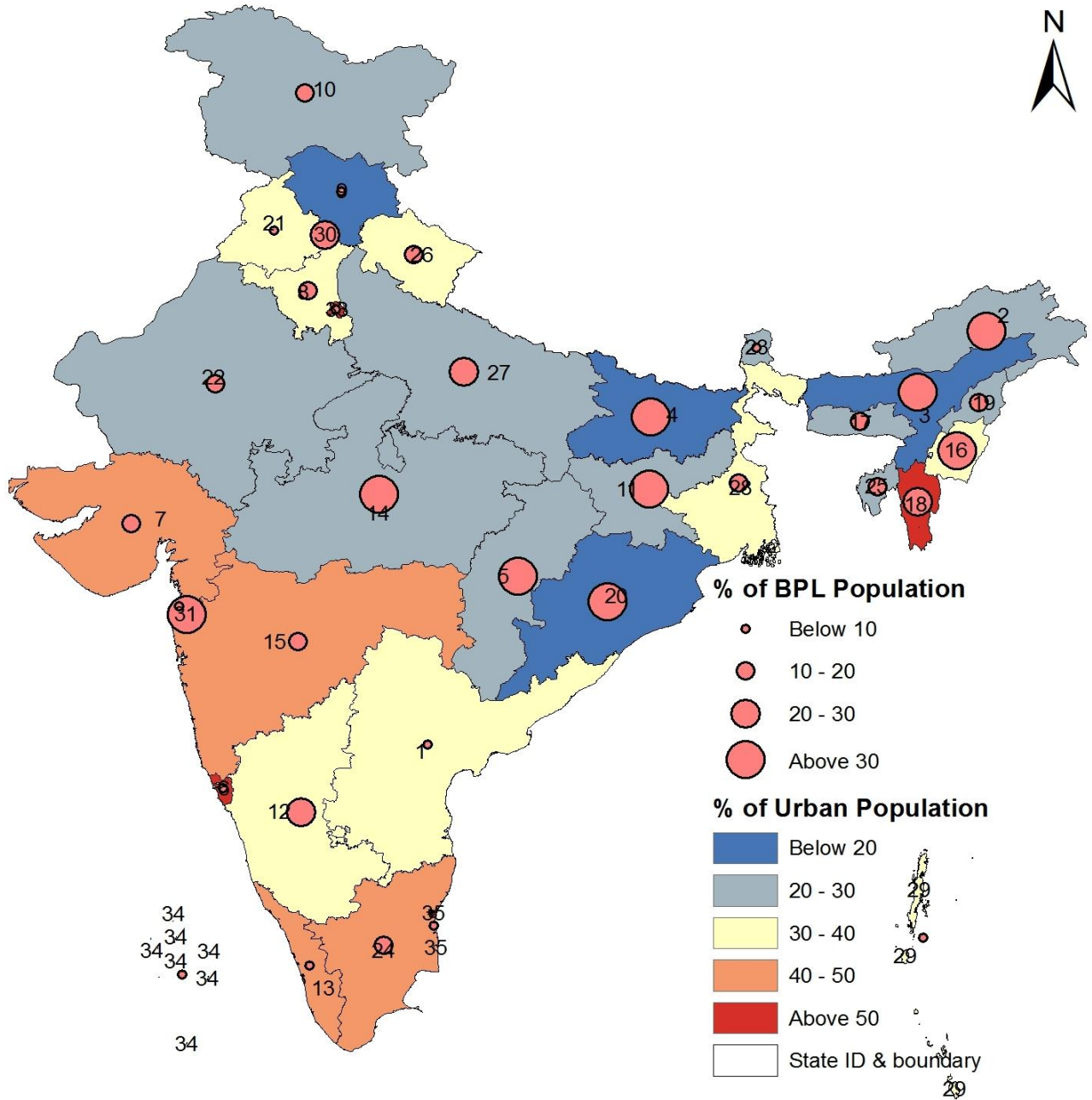


Figure-1: Distribution of urban and below poverty line (BPL) population in India state/UTs.

According to the 2011-12 National Sample Survey Office (NSSO) report and 2011 Census India data, agriculture contributes about 15 percent of GDP and as many as 570 million people (about 47 percent of the total population) depend on this sector. Approximately 50 percent of land in India (around 140 million hectares) is under cultivation, which is unequally distributed among states and regions. More 5 percent of farmers control over 32 percent of farmland and it is estimated that about four million people in India do not have their own farmland. And the landlessness is very severe among the dalits and scheduled tribes (STs) communities in rural India.

In spite of rural dominance, the contribution of agriculture sector in India's GDP is marginal, as compared to the contribution of service sector. It has also recorded that the share of agriculture in state domestic product (SDP) has declined over decades for almost all the states.

Though the decline share of agriculture sector is not much noticeable in income gap across the states, due to the divergence in income in other sectors that could be explained in terms of growth in industry and service sector over the years (Table-1).

Table-1: Change in sector-wise GDP share at constant (2004-05) prices over a decade.

Sector	Percentage share of sector in GDP*		Percentage change in GDP share (from 2004-05 to 2013-14)
	2004-05	2013-14	
Agriculture & allied	19	14	- 27.23
Industry	28	26	- 6.45
Service	53	60	+13.02

Note: *Figures are rounded off and are based on the data of Central Statistical Organization (CSO)¹¹.

Table-2: Economic profile of Indian state/UTs and project GSDP.

State ID	State/UTs	Population 2011 census (million)	Percentage of BPL population [@]		GDP per capita 2013-14 (Rs. at current price)	Annual growth rate of GDP 2017-18 (at constant price of 2011-12)	Average unemployment rate (per 1000 persons) 2015-16*	Nominal GSDP (Rs. in current price)	
			Rural	Urban				Exponential growth rate (2001-02 to 2014-15)	Projected GSDP in 2020 (billion)
1	Andhra Pradesh	84.67	10.96(11.2)	5.81(28.0)	81397	10.35	39	1.1390	16434.64
2	Arunachal Pradesh	1.38	38.93	20.33	85468	13.29	94	1.1802	373.97
3	Assam	31.17	33.89(22.3)	20.49(3.3)	44263	8.16	93	1.1292	3282.79
4	Bihar	103.8	34.06(42.1)	31.23(34.6)	31199	5.81	68	1.1731	8711.88
5	Chhattisgarh	25.54	44.61(40.8)	24.75(41.2)	58547	3.62	19	1.1638	4581.82
6	Goa	1.46	6.81	4.09	224138	10.89	120	1.1732	1305.82
7	Gujarat	60.38	21.50(19.1)	10.14(13.0)	106831	9.68	10	1.1641	19647.19
8	Haryana	25.35	11.64(13.6)	10.28(15.1)	133427	7.47	66	1.1671	9973.43
9	Himachal Pradesh	6.86	8.48(10.7)	4.33(3.4)	92300	8.87	132	1.1465	1882.87
10	Jammu & Kashmir	12.55	11.54(4.6)	7.20(7.9)	58593	14.45	154	1.1369	1790.53
11	Jharkhand	32.97	40.84(46.3)	24.83(20.2)	46131	4.17	96	1.1498	4269.37

12	Karnataka	61.13	24.53(20.8)	15.25(32.6)	84709	6.35	16	1.1565	14760.88
13	Kerala	33.39	9.14(13.2)	4.97(20.2)	103820	6.52	170	1.1476	9171.50
14	Madhya Pradesh	72.6	35.74(36.9)	21.00(42.1)	51798	4.43	59	1.1538	9848.11
15	Maharashtra	112.37	24.22(29.6)	9.12(32.2)	114392	6.94	21	1.1566	37046.16
16	Manipur	2.72	38.80	32.59	41573	3.52	58	1.1245	275.14
17	Meghalaya	2.96	12.53	9.26	61548	6.14	56	1.1437	482.68
18	Mizoram	1.09	35.43	6.36	76120	8.15	30	1.1482	214.89
19	Nagaland	1.98	19.93	16.48	77529	1.64	85	1.1316	363.22
20	Odisha	41.95	35.69(46.8)	17.29(44.3)	52559	7.3	76	1.1656	7408.97
21	Punjab	27.7	7.66(9.1)	9.24(7.1)	92638	4	120	1.1323	6705.59
22	Rajasthan	68.62	16.05(18.7)	10.69(32.9)	65974	5.46	90	1.1658	12840.01
23	Sikkim	0.61	9.85	3.66	176491	7.14	240	1.2375	428.91
24	Tamil Nadu	72.14	15.83(22.8)	6.54(22.2)	112664	4.96	47	1.1645	21725.30
25	Tripura	3.67	16.53	7.42	69705	10.58	288	1.1300	542.00
26	Uttarakhand	10.12	11.62(40.8)	10.48 (36.5)	103716	6.33	86	1.1998	3998.79
27	Uttar Pradesh	199.58	30.40(33.4)	26.06 (30.6)	36250	6.55	133	1.1410	19197.65
28	West Bengal	91.35	22.52(28.6)	14.66(14.8)	70059	-	69	1.1389	14946.11
29	A & N Islands	0.38	1.57	0	107418	7.06	189	1.1531	149.50
30	Chandigarh	1.05	1.0	22.31	156951	5.34	27	1.1502	706.98
31	Dadra & Nagar Haveli	0.34	62.59	15.38	-	-	46	-	-
32	Daman & Diu	0.24	0	12.62	-	-	18	-	-
33	Delhi	16.75	12.92(6.9)	9.84(15.2)	219979	8.47	54	1.1681	10209.25
34	Lakshadweep	0.06	0	3.44	-	-	153	-	-
35	Puducherry	1.24	17.06	6.30	143677	8.35	65	1.1416	455.49
100	India	1210.56	25.7(28.3) [#]	13.7(25.7) [#]	74920	6.50	63	1.1516	250936.26

Note: State_IDs (1 to 35) in first column are used in Figure-1, @ 2011-12 figures as per Tendulkar Methodology; *Labour Bureau Report¹², #Figures within the parenthesis () indicate available data of 2004-05 rural and urban BPL population (in %) of respective states. The poverty line (implicit) at all India level has been worked out from the expenditure class-wise distribution¹².

The contribution to country's GDP by individual states varied widely from less than 0.1 percent of Goa to more than 15 percent of Maharashtra, though Goa recorded the highest per capita GDP among all state/UTs in the country (Table-2). The exponential growth rate of nominal GSDP (at current prices) is maximum in Sikkim followed by Uttarakhand and Arunachal Pradesh during last decade. Chhattisgarh has recorded the highest percentage of rural BPL population (above 44 percent of total rural population) followed by Jharkhand. Whereas Bihar has recorded highest percentage of urban BPL population followed by Uttar Pradesh, with a marginal decrease in the percentage of urban BPL population over the decade. In a study by Kapoor (2013) indicate that the urban inequality has increased in more states as compared to rural inequality¹³. The study also found that the Gini coefficient has increased more steeply in urban than that of in rural India and the pace of urban poverty reduction was lower than that of rural¹³.

Social VS economic progress in India: An increase in GDP is often perceived as a measure of economic success of a country. However, it fails to enumerate the multi-dimensional or cross-sectional development and tends to concentrate in some segment/regions of the country. Development is multi-dimensional concept which includes economical, social, infrastructural, environmental and emotional dimensions and GDP has a limited scope to exhibit the living quality of every segment of the population. Therefore, an increasing GDP not always lead the country for social well-being and overall sustainable development. So the economic growth model focusing GDP may lead to increases in wealth, infrastructure, transport and communication technology in the country overlooking livelihood options and social infrastructure. And this growth has not been proportionately translated in providing employment opportunity/income generation of its citizen.

Econometric studies indicate a direct relationship between economic growth and infrastructure development, which plays a vital role to improve the quality of human life of country¹⁴. However, the pace of development of physical and social infrastructure varies across the regions and realization of social development as a consequence of infrastructure development takes a long time-span to assess. This development need to be quantified to assess the social progress of the country. In this context, US based Social Progress Imperative is the pioneer in releasing social progress index (SPI) of 133 countries worldwide in 2014¹⁵. Similar to this index, the Institute for Competitiveness has initiated to assess the social progress made by the Indian states on holistic approach. The methodology adopted for the index are based on three categories *viz.* basic human need (such as nutrition, medical care, water, sanitation, shelter, personal safety); foundation of well-being (such as access to information and communication, health and wellness, environmental quality); and opportunity to progress (such as personal rights, freedom, tolerance and inclusion, access to advance education)¹⁶. Thus, SPI is beyond the one-dimensional GDP measurement and a better way of measuring

societal development, as it assesses how the economic and social development of a country is correlated. By quantifying on these social and environmental performances individual states are scaled from 0 to 100 in SPI, where 0 and 100 indicate worst and best case scenario, respectively. This quantification helps in relative ranking of states and supplements the measures of economic progress on social and environmental front.

The absolute figure of SPI does not reveal the insight into the social progress of any individual state unless it is compared with other parameters. So the SPI of individual state has been compared with the economic status of the state and presented in a scatter diagram (Figure-2). This relative analysis shows that an economically rich state may excel the absolute social progress, yet a state having lower economic status may also achieve modest levels of social progress and record better performance than its peers with same level of economic resources. Kerala outperforms all its economic peers in its SPI which is highest in the country. The model of Kerala is always exemplified as an evidence that investing more in social infrastructure can boost the productivity of people and thereby growth¹⁷. The state has shown a higher degree of human development with comparatively lower investment as compared to other states. The human development achievement of Kerala is proportionately much higher than that of its economic growth. The social development with equity and justice (education, health and social services infrastructure) has resulted in the positive outcome of a demographic transition and population stabilization in the state. The state is also among the lowest human poverty index (HPI) state in the country followed by Tamil Nadu and Punjab.

In a study by Mundle et al.¹⁸ found that there is a strong correlation between quality of governance and economic development, in terms of per capita gross state domestic product (GSDP)¹⁶. The study suggests a measure of governance as service delivery to rate and rank the governance performance of major states in India. The performance measure has been derived from five governance dimensions *viz.* infrastructure services; social services; fiscal performance; justice (law & order); and quality of the legislature. During 2002 to 2012 the study found that higher value of some governance indicators attribute to the higher level of development of the state. Five states has shown consistence performance over a decade and occupied top slots in governance performance index (GPI) are Gujarat, Tamil Nadu, Andhra Pradesh, Kerala, and Punjab; while worst performing states are Odisha, Jharkhand, Uttar Pradesh, and Bihar during the same period¹⁸.

A study has been carried out by Chatterjee et al.¹⁹ on inequality of consumption expenditure across India and found that the aggregate measures of inequality are fairly diversified across states. The distribution of per capita consumption expenditure (MPCE) also shows similar trend. The study also reveals the growth-inequality nexus and has shown that a higher level of prosperity is associated with a higher level of inequality¹⁹.

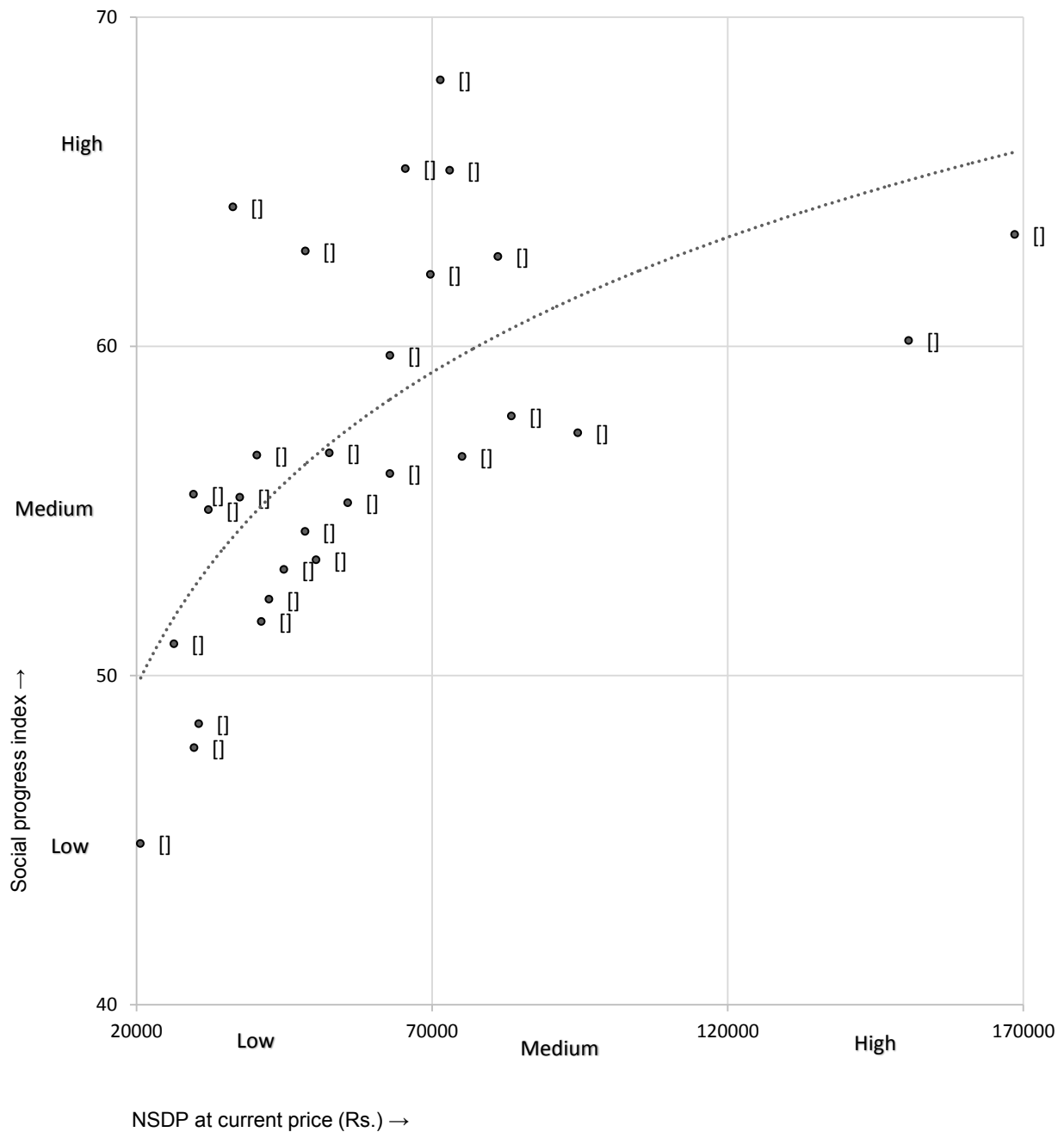


Figure 2. Matrix of social progress vs economic indicators.

Results and discussions

The NSDP is one of the important economic measures that can represent economic status and used to compare other economic indicators of a state. Instead of absolute figures of economic indicators states are compared as relative parameter of per capita NSDP at constant price and on the basis of it states are classified into three ranges (high, medium and low) of

hierarchy. The smaller value (figure) of under-developed index (based on per capita NSDP) indicates higher development status of respective state (Table-3). The allocation of state share is aggregated to three parameters viz. fixed share, share based on need and share based on performance. Some qualitative parameters like very high (VH), high (H), medium (M) and low (L), etc. has also been used to show income group and HDI of respective state.

Table-3: Relative development indicators and performance index of Indian states^{19,20}.

Per capita NSDP at constant price 2015-16 (base year 2011-12)	States	Under-development/ need index (based on per capita NSDP)	Allocation of state share (in relation to population)		Average per capita consumption expenditure		Income group (GDP per capita)	HDI @
			Total share (%)*	Per capita allocation (Rs. in billion)	MPC E [#]	Gini-coefficient		
High NSDPPCA (above Rs. 100,000)	Goa	0.05	0.30	2.06	H	0.317	VH	VH
	Kerala	0.15	0.38	0.13	H	0.414	H	VH
	Tamil Nadu	0.36	2.51	0.35	L	0.358	VH	H
	Maharashtra	0.37	3.94	0.35	M	0.395	VH	M
	Uttarakhand	0.39	0.79	0.78	L	0.324	H	M
	Punjab	0.39	1.07	0.39	M	0.342	H	H
	Sikkim	0.41	0.35	5.74	M	0.323	VH	H
	Himachal Pradesh	0.42	0.67	0.98	M	0.356	H	H
	Haryana	0.43	1.33	0.52	M	0.351	VH	H
	Karnataka	0.48	3.73	0.61	L	0.390	H	M
Gujarat	0.50	3.69	0.61	M	0.330	VH	M	
Middle NSDPPCA (Rs. 60,000-100,000)	Tripura	0.47	0.52	1.41	L	0.295	M	M
	Mizoram	0.52	0.40	3.65	M	0.269	M	M
	Jammu & Kashmir	0.53	1.83	1.46	L	0.277	M	M
	Andhra Pradesh	0.54	6.85	0.81	M	0.373	H	L
	West Bengal	0.56	5.50	0.60	L	0.369	M	L
	Nagaland	0.57	0.45	2.29	M	0.233	H	M
	Rajasthan	0.65	8.42	1.23	L	0.332	M	L
	Arunachal Pradesh	0.74	0.97	6.97	L	0.324	H	M
	Chattisgarh	0.74	3.70	1.45	L	0.364	M	VL
Low NSDPPCA (below Rs. 60,000)	Manipur	0.58	0.50	1.96	L	0.193	L	M
	Uttar Pradesh	0.65	16.41	0.82	L	0.327	L	VL
	Meghalaya	0.70	0.65	2.18	L	0.264	M	M
	Assam	0.71	3.05	0.98	L	0.297	L	L
	Jharkhand	0.74	3.88	1.18	L	0.344	L	VL
	Madhya Pradesh	0.76	9.56	1.32	L	0.363	L	VL
	Bihar	0.76	12.04	1.16	L	0.319	L	VL
Odisha	0.79	6.53	1.56	L	0.355	L	VL	

Note: States are arranged on the basis of ascending order of underdevelopment index within the High, Middle and Low NSDPPCA category; lesser the index value indicate better development status of the state. *Total share comprises of fixed share (0.3 for each state), share based on need and share based on performance of state, which are aggregated to 100% by combining all state figures. Income group category: Above 105,000: Very High (VH); 75,000-105,000: High (H); 55000-75000: Middle (M); Below 55,000: Low (L). @ Human Development Index (by UN Method) of Indian states for 2018, HDI India: 0.64, HDI range: Above 0.75: Very High (VH); 0.7-0.75: High (H); 0.65-0.7: Middle (M); 0.6-0.65: Low (L); below 0.6: Very Low (VL). #Monthly per capita consumer expenditure range: Above 2000: High (H); 1500-2000: Middle (M); below 1500: Low (L).

The NSDP per capita (NSDPPCA) figures of 2015-16 of Central Statistical Organisation (CSO) have been taken for economic inferences of Indian states. States are broadly divided into three categories viz. high, middle and low NSDPPCA state (Table 3). Among all high NSDPPCA states the under-development index is minimum for the state of Goa and Kerala which is characterized as developed states. The state share of allocation (per capita allocation) of NE states like Arunachal Pradesh, Sikkim, Mizoram, Nagaland and Manipur is quite high due to their small population size. Among these states, Sikkim has registered higher HDI and very high per capita GDP. Moreover, all the NE states has recorded a lower Gini coefficient (G) as compared to other states/regions in the country indicating per capita consumption expenditure (MPCE) is more uniform (less dispersed). The G of MPCE of higher NSDPPCA states of Kerala, Maharashtra, Karnataka is significantly high indicating less uniform distribution among the districts of these states¹⁸. The general trend is that the higher income group is associated with higher level of inequality. However, some low income group states like Madhya Pradesh, Odisha, Jharkhand also depict higher G which also indicate more intra-state dispersion. The higher 'G' means intra-state disparities are significantly high, which is due to wide variation among the districts of the state. Some districts of these states are having well-developed economy, despite few under-developed/backward districts. Higher per capita allocation for the state like Arunachal Pradesh, Sikkim, Mizoram, etc. is due to their marginal population, as the figure has been derived by share of the state divided by their respective population. So the higher per capita allocation of these NE states cannot be compared with the per capital allocation of other populous states.

Policy implications: India is predominantly rural where agriculture and allied sector is the main livelihood option of majority people in rural India. Indian villages are suffering from lower per capita income, illiteracy, malnutrition, lack of basic amenities like housing, health care, transportation and communications services, etc. In the lack of necessary institutional governance, the outcome of economic reforms are attributing to some segment of the society/regions resulting inequitable distribution of economic resources. So the objective of government policy is to initiate plans in the right direction to minimize the short run costs of institutional failures. In this context the government capital expenditure policy has significant role on growth of the poorer states, but it cannot offset the increasing regional disparity. Several attempts have been made by the government in this direction like poverty eradication in rural India, improvement of livelihood options, increase social infrastructure, mass awareness campaign of social schemes and women empowerment particularly in rural areas, which is the driving force of rural economy.

There exists a clear distinction in governance performance (GPI) among states and as a consequence of this; few states are more developed than the remaining state/regions of the country.

Keeping in view of the present scenarios it is a debatable question whether the current pace of development will enable less-developed states come up to the level of developed states? Whether there will be convergence or divergence in development indicators across the states in the near future? If the equalizing interventions by the government are not sufficient to 'draw level' then the regional disparities will continue to be widened.

Conclusion

Economic development in general and economic growth in particular has a direct relationship with social transformation. The general trend indicates that higher income states are inclined to higher social progress than that of lower income states. However, this relationship is neither simple nor linear and within a state the development of different regions varies widely. Further the inter-region/intra-state disparities in per capita consumption expenditure are more in the higher income group, particularly in big states with large number of districts. So, there is a scope of analysis whether economic growth is serving to address social challenges or not. And if the growth is contributing to social progress, then how much it is equitable among different regions/sectors or social groups in each state.

Despite the overall correlation between economy and social progress, the variability of performance among states needs to be studied. The comparable level of GDP per capita is one of the factors that have been considered for assessing the performance variations among states. The facts support the conclusion that economic measures cannot be the sole thrust of inclusive growth in the country. Good governance is also an important factor that enables the state resources for the overall socio-economic development. Resource richness is not adequate to be a developed state and it is very much true in the case of resource rich Jharkhand and Chhattisgarh; these states could have been considered as developed state.

In the present paper, an attempt has been made to bridge the gap between qualitative and quantitative techniques, and hence this work leaves space for further research through the deployment of a host of techniques/methods in the domain of the economics and development sociology. As the information presented in the paper is based on secondary data collected from different sources and analysis of these data has also some limitations. Comparison of state of different size (in terms of area or population) on the same scale may lead to inaccurate result, as a state like Goa having only two districts cannot be compared to a large state like Uttar Pradesh having varied socio-economical conditions. Availability/accessibility of time-series data on various parameters is also a limiting factor and hence the temporal dimension of all the parameters has not been considered. A detailed theoretical cross-section, temporal study would help to explain the causal relationship between economic growth and social inequality.

Acknowledgement

The author acknowledges the National Informatics Centre (NIC), National Sample Survey Office (NSSO), Ministry of Labour & Employment, Ministry of Statistics and Programme Implementation, Institute for Competitiveness for providing digital data. The author expresses his sincere gratitude to the Director-Haryana Space Applications Centre, Hisar for logistic support to carry out the study.

References

1. Shobha, K. and Ambiga, D.P. (2014). Inter-state disparities in India: Linkages between human development and economic indicators. *Journal of Global Economics*, 2(3), 1-3.
2. Bhattacharyya, S; Burman, R.R. and Paul, S. (2019). The concept of measuring happiness and how India can go the Nordic way. *Current Science*, 116(1), 26-28.
3. Helliwell, J., Layard, R. and Sachs, J.D. (2018). World Happiness Report 2018. Sustainable Development Solutions Network, New York. https://s3.amazonaws.com/happiness-report/2018/WHR_web.pdf accessed on 10.10.2020.
4. Nandy, S.N. (2019). Development disparities in India: an inter-state and intra-state comparison. *Journal of Land and Rural Studies*, 7(2), 99-120. DOI: <https://doi.org/10.1177/2321024919844407>.
5. Pal, P. and Ghosh, J. (2007). Inequality in India: A survey of recent trends. DESA Working Paper No. 45 ST/ESA/2007/DWP/45. UN Department of Economic and Social Affairs, pp. 30.
6. Dreze, J. and Sen, A. (1999). India: Economic Development and Social Opportunity. OUP Catalogue, Oxford University Press (No. 9780198295280).
7. Akbar, K. (2011). Relationship between GDP and Human Development Indices in India. Society of interdisciplinary Business Research, Conference on Interdisciplinary Business Research, Bu Ali Sina University. DOI: <http://dx.doi.org/10.2139/ssrn.1867887>.
8. Das, A. (1999). Socio-economic development in India: a regional analysis. *Development and Society*, 28(2), 313-345.
9. Ohlan, R. (2013). Pattern of Regional Disparities in Socio-economic Development in India: District Level Analysis. *Social Indicators Research*, 114(3), 841-873.
10. Pal, S.K. (1998). Statistics for geoscientists: techniques and applications. Concept Publishing Company, New Delhi, pp. 610.
11. State of Indian Agriculture (2016). Ministry of Agriculture & Farmers Welfare. Government of India, New Delhi, pp. 280.
12. Labour Bureau Report (2016). Ministry of Social Justice & Employment. Government of India, New Delhi.
13. Kapoor, R. (2013). Inequality matters. *Economic and Political Weekly*, XLVIII(2), 58-65.
14. Nandy, S.N. (2014). Road infrastructure in economically under-developed North-east India: a district level study. *Journal of Infrastructure Development*, 6(2), 131-144. DOI: <https://doi.org/10.1177/0974930614564648>.
15. Porter, M.E., Stern, S. and Green, M. (2014). Social Progress Index 2014. Social Progress Imperative, Washington DC. <https://www2.deloitte.com/content/dam/Deloitte/cr/Documents/public-sector/2014-Social-Progress-IndexRepIMP.pdf> accessed on 10.10.2020.
16. Kapoor, A., Kapoor, M. and Lrylova, P. (2017). Social Progress Index: States of India 2005-2016. Institute for Competitiveness, Gurugram. Pp 34.
17. Kapoor, A. and Yadav, C. (2016). Business Standard publication on 13.12.2016. retrieved from http://www.business-standard.com/article/news-ians/jayalalithaa-pres-ented-indiaalternate-model-of-development-column-active-voice-116121300201_1.html.
18. Mundle, S., Chowdhury, S. and Sikdar, S. (2016). Government performance of Indian states 2001-02 and 2011-12. NIPFP working paper no. 164, National Institute of Public Finance and Policy, New Delh, pp. 35.
19. Chatterjee, A., Chakrabarty, A.S., Ghosh, A., Chakraborty, A., and Nandi, T.K. (2016). Invariant features of spatial inequality in consumption: The case of India. *Physica A: Statistical Mechanics and its Applications*, 442, 169-181.
20. Ministry of Finance, Government of India (2013). Report of the committee for evolving composite development index of states. pp. 49.