

# DEVELOPMENTAL INDICATORS OF UNDERDEVELOPED BIHAR AND JHARKHAND STATE

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*Regional disparities exist almost every part of the world. The disparity is either natural or induced by man and man-made disparities are very much noticeable by social scientists. They often try to quantify this disparity in different socio-economic parameters. One such disparity has been presented in the paper focusing one of the underdeveloped regions of India. The developmental indices of underdeveloped states of Bihar and Jharkhand have been mapped in the present paper. The nature has boosted them with natural resources, but the successive failures of the state made them backward. Intra-state comparison of backwardness has been done on some selected parameters. District boundaries have been used to map the disparities of the state using GIS software. It is found that the states are lagging behind the national average particularly in economic front and human development index (HDI). Though some new initiatives have been taken in the recent past to uplift these states from decades old backwardness, it takes a long time to become developed if the performance remains consistent in the long run.*

**Keywords:** Backwardness index, BIMARU, BPL, EAG state, GDP, HDI, Intra-state disparity, NSDP

## INTRODUCTION

In the mid 80s Prof. Ashish Bose in an economic analysis coined an acronym 'BiMaRU' to refer the four grossly under-developed states of Bihar, Madhya Pradesh, Rajasthan and Uttar Pradesh. BIMARU has a resemblance to a Hindi word '*Bimar*', which means sick. Several studies showed that the performance of the BIMARU states affected the development momentum and GDP growth rate of India. The difference in economic and population growth rates between these states and rest of other Indian states sharpened over the 1990s. The economy of BIMARU states has grown at an average of 4.6% per year in the 1990s as compared to 6.5% per year of national average (Som and Mishra, 2014). In contrast, the population growth rate in these states was much higher than the national average, and as a result, the income disparity of BIMARU states has also increased considerably as compared to the national average.

Disparities are bound to exist in the vast countries like India where variations in physiography, demography, natural resources across geographical locations are very much noticeable. The disparities are evident both in physical and social across the states and regions. The economic indicators play a vital role for physical and social infrastructure of a region or a country. In this context there exist two distinct groups of states in the country in terms of mobilization of economic resources. In the first group, a set of five major states, viz. Gujarat, Maharashtra, Tamil Nadu, Andhra Pradesh and Karnataka together contribute less than one-third of country's population is termed as developed states. According to Kurian (2000) these states accounted for almost two-third of the private investment proposals and have been benefited from over 60% of the commercial bank credit/ financial flows from national level financial institutions over the last two decades. In contrast, the

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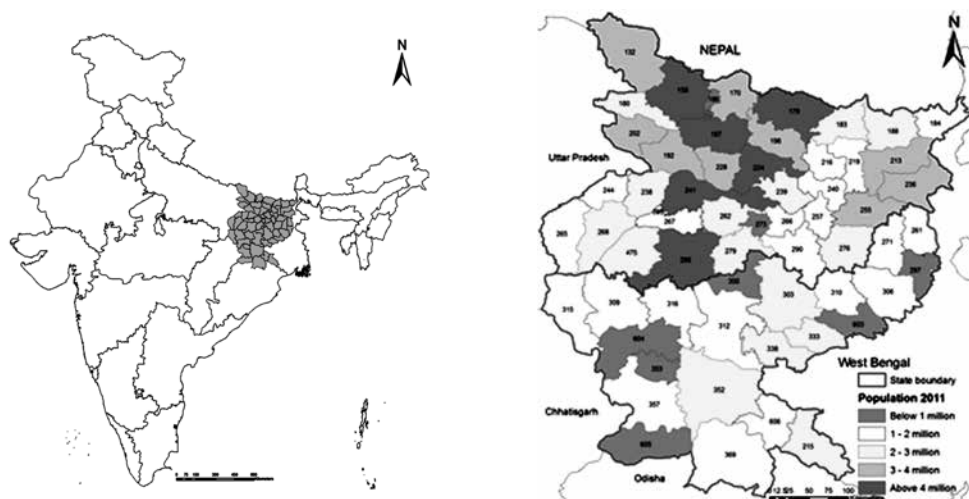
second group of underdeveloped states, namely undivided Uttar Pradesh-Bihar-Madhya Pradesh, and West Bengal-Rajasthan-Odisha-Assam together accounting for 55% of the population received less than 30% of the private investment proposals and a similar share of bank credit and other institutional finances during the same period (Kurian, 2000).

On the basis socio-economic indicators and lagging behind demographic transition, 8 states have been referred as Empowered Action Group (EAG) states in India. These states are Bihar, Jharkhand, Madhya Pradesh, Chhattisgarh, Uttar Pradesh, Uttarakhand, Odisha and Rajasthan. These EAG states together share about 46% of the population of India according to 2011 Census and contribute about 28% of country's GDP. The first two EAG states namely Bihar and Jharkhand have been studied in this paper for some of the socio-economic developmental parameters with respect to the country as a whole.

## STUDY AREA

Bihar (along with Jharkhand) is located in the eastern part of India. The state is surrounded by Himalayan kingdom-Nepal in the north, West Bengal in the east, Uttar Pradesh in the west, Chhattisgarh in the south-west and Odisha in the south (Figure 1). The state enjoys a unique location specific advantage because of its proximity to the vast markets of eastern and northern India, access to ports such as Kolkata and Haldia and mineral reserves from the neighbouring states in the region. Jharkhand curved out from Bihar state on November 2000 comprising Santhal Pargana and Chhotanagpur regions in the southern part of state. The newly formed state share 2.42% of total geographical area of India and contribute a significant portion of mineral exploration and power supply of the country. Jharkhand is one of the richest mineral zones not only in country but in the world and boasts about 40% of minerals and 29% of coal reserves in India. Due to its large mineral reserves, mining and mineral extraction are the major industries in the state. Both the states have very good road and rail network, however, the regular air connectivity is limited to state capitals now.

**Figure 1 : Location Map and Distribution of Human Population across Bihar and Jharkhand**



(Figures within the district boundary indicate the District\_ID and these IDs has been used in Table 3&4)

## Socio-economic status

Since independence, the undivided Bihar (prior to 2000) stood second in the country in terms of population (next to Uttar Pradesh) and number of elected members in the parliament (M.P.) of India. But this populous state remains underdeveloped for decades and stood in the bottom line of socio-economic indicator due to its huge chunk of below poverty line (BPL) population. The states together share 5.29 % of total geographical area, contribute 11.3% of country's population and 5.14% of GDP of India (Table 1). Bihar is most densely populated state in the country and has recorded the highest population growth rate among all large states in India. Jharkhand also depict the similar trend of population growth, though the population density is much lower than that of Bihar. The state is known for its vast reserves of natural resources in terms of forests as well as minerals and it accounted for more than 70% of Bihar's domestic product before the state was bifurcated (Gandhi et al. 2011). Even after the formation of separate state, Jharkhand has not been able to take the advantage of its immense potential and is still one of the 'backward states', a tag (status) which it has inherited from Bihar. The per capita NSDP (at 1999-2000 prices) compound annual growth rate of Bihar and Jharkhand was 4.5 and 4.8 respectively as compared to the national growth rate of 5.6 during the period from 2000 to 2008 (GoI, 2010). This slower growth rate of NSDP per capita has widened the economic gap between these states and the nation as a whole.

**Table 1 : Socio-economic Status of Bihar and Jharkhand with Respect to India**

State	Population (million) on 2011 census	Dec. growth rate (2001-2011)	Population density (person/ sq. km.)	Share of country's population (in %)	Contribution to country's GDP (%)	% of urban population (out of total population)	NSDP at Current Price (in Rs.)	Average growth rate (%) in per capita NSDP (2007-2012)
Bihar	103.80	25.07	1,102	8.57	2.95	11.30	20708	10.82
Jharkhand	32.97	22.34	414	2.72	2.19	24.05	29786	5.93
INDIA	1210.56	17.64	382	100	100	31.15	98719	6.2

Bihar recorded highest annual exponential growth rate of human population (2.26) among all large states in India. The population growth rate of Bihar and Jharkhand is alarmingly high, as the annual exponential growth rate of both the states is above 2. The high growth rate of human population creates pressure on the limited resources of these states and in the long run and force people to migrate from the state in search of livelihood. Majority of the population of Bihar and Jharkhand lives in rural areas where most of the people depend on primary sector, are comparatively poorer and BPL population is quite large in these states. In contrast the higher urbanized states have opened up more livelihood options and people in these states are not only dependent on primary sector. However, during last two decades Bihar has lifted a significant portion of its population from BPL, still its percentage of BPL population is much higher than the national average (Table 2). In case of Jharkhand the situation is much adverse, as about 37% BPL population has been recorded after advancing more than a decade of its formation.

The United Nation Development Program (UNDP) has considered the parameters such as life expectancy, education level and per capita income to calculate the human development index (HDI) across the world since 1990. India has scored 0.467 on this composite world-wide index on 2008 and has increased its average HDI to 0.519 on 2010 and 0.609 on 2015. In the national level to measure the human development across the states, similar kind of analysis has been done. There is wide variation among the HDI scores of different states and states has been ranked according to the highest to lowest score in the respective estimated year.

**Table 2 : Development Indicator of Bihar and Jharkhand with Respect to India**

State	HDI						BPL population					
	1990-91		1999-2000		2007-2008		2004-2005		2009-2010		2011-2012	
	Score	Rank <sup>@</sup>	Score	Rank <sup>@</sup>	Score	Rank <sup>@</sup>	Pop. <sup>#</sup>	%*	Pop. <sup>#</sup>	%*	Pop. <sup>#</sup>	%*
Bihar	0.31	15	0.29	19	0.37	21	49.38	54.4	54.35	53.5	35.82	33.7
Jharkhand	-	-	0.27	23	0.38	19	13.22	45.3	12.62	39.1	12.43	37.0
INDIA	0.38	-	0.39	-	0.47	-	407.22	37.2	354.68	29.8	269.78	21.9

<sup>@</sup>Ranked on the basis of highest to lowest score among all Indian states

Pop.<sup>#</sup>: BPL population in million, %\*: Percentage of BPL population among total population of respective state.

## DISTRICT-LEVEL ANALYSIS

There are considerable regional socio-economic disparities not only between the states but also within the states. State-level analyses generally do not reveal the cause and consequences that is taking place in different regions within a state, particularly for larger states. In fact, intra-state disparities are cause of concern as inter-state disparities. The Planning Commission (PC) on 2003 has developed a methodology to rank districts on the basis of three major parameters viz. percentage of SC/ST population, agriculture wages and output per agriculture worker. The districts with low wages, low productivity and high SC/ST population have been ranked as backward on this index. This composite index ranked the backward districts across the country from 1 to 447 (PC 447 rank). Rank 1 means most backward and whereas 447 mean least backward district, and beyond that (>447) districts are not treated as backward. More than 80% districts of Bihar falls below 300 (rank) out of 447 ranked district across the country. The state of backwardness among the districts of Jharkhand is further worse. However, two districts of Jharkhand (Dhanbad & Ranchi) and one district of Bihar (Patna) are excluded among the ranking of backwardness (PC 447 rank).

**Table 3 : Population Size, Density, Growth Rate and PC's Rank of Backwardness for the Districts of Bihar**

<b>District_ ID</b>	<b>District</b>	<b>Population (in million)</b>	<b>Population density</b>	<b>Dec. growth rate (%)</b>	<b>PC 447 rank*</b>
188	Araria	2.81	992	30.00	158
595	Arwal	0.70	1099	19.01	223
475	Aurangabad	2.51	760	24.75	263
276	Banka	2.03	672	26.14	271
239	Begusarai	2.95	1540	25.75	300
255	Bhagalpur	3.03	1180	25.13	272
238	Bhojpur	2.72	1136	21.27	313
244	Buxar	1.71	1003	21.77	312
196	Darbhanga	3.92	1721	19.00	182
286	Gaya	4.38	880	26.08	104
180	Gopalganj	2.56	1258	18.83	303
290	Jamui	1.76	567	25.54	141
267	Jehanabad	1.12	1206	21.34	223
265	Kaimur (Bhabua)	1.63	488	27.54	284
236	Katihar	3.07	1004	28.23	200
240	Khagaria	1.66	1115	29.46	234
184	Kishanganj	1.69	898	30.44	250
266	Lakhisarai	1.00	815	24.74	203
219	Madhepura	1.99	1116	30.65	235
179	Madhubani	4.48	1279	25.19	190
257	Munger	1.36	958	19.45	204
197	Muzaffarpur	4.78	1506	27.54	189
262	Nalanda	2.87	1220	21.18	329
279	Nawada	2.22	889	22.49	142
132	Pashchim Champaran	3.92	750	28.89	260
241	Patna	5.77	1803	22.34	#
158	Purba Champaran	5.08	1281	29.01	273
213	Purnia	3.27	1014	28.66	184
268	Rohtas	2.96	763	20.22	277
216	Saharsa	1.90	1125	25.79	237
224	Samastipur	4.25	1465	25.33	120
192	Saran	3.94	1493	21.37	342
273	Sheikhpura	0.63	922	20.82	205
186	Sheohar	0.66	1882	27.32	121
170	Sitamarhi	3.42	1491	27.47	243
202	Siwan	3.32	1495	22.25	228
183	Supaul	2.23	919	28.62	191
228	Vaishali	3.50	1717	28.58	112

**Table 4 : Population Size, Density, Growth Rate and PC's Rank of Backwardness for the Districts of Jharkhand**

District_ID	District	Population (in million)	Population density	Dec. growth rate (%)	PC 447 rank*
338	Bokaro	2.06	716	15.99	100
316	Chatra	1.04	275	28.98	70
310	Deoghar	1.49	602	28.02	151
333	Dhanbad	2.68	1284	11.92	#
306	Dumka	1.32	300	19.39	50
315	Garhwa	1.32	327	27.71	71
303	Giridih	2.45	497	28.33	130
271	Godda	1.31	622	25.14	76
357	Gumla	1.03	193	23.21	5
312	Hazaribagh	1.73	403	25.75	115
603	Jamtara	0.79	439	21.00	51
300	Kodarma	0.72	427	32.59	116
604	Latehar	0.73	200	29.38	73
353	Lohardaga	0.46	310	26.67	14
297	Pakaur	0.90	498	28.15	69
309	Palamu	1.94	381	25.94	72
369	Pashchimi Singhbhum	1.50	209	21.69	20
215	Purbi Singhbhum	2.29	648	15.53	111
352	Ranchi	2.91	557	23.90	#
261	Sahibganj	1.15	719	23.96	68
606	Saraikela	1.06	390	25.28	19
605	Simdega	0.60	160	16.62	4

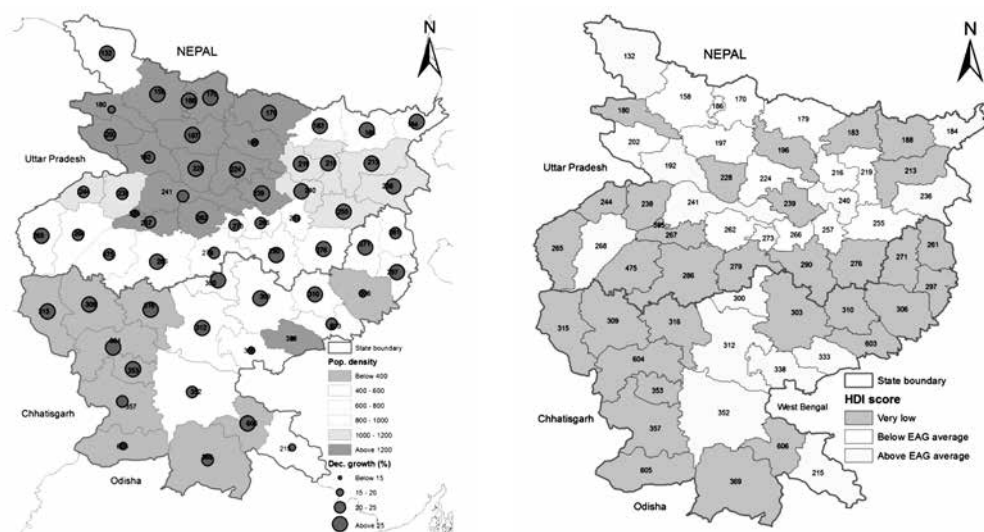
\*Ranked as per the report of the task force on "Identification of Districts for Wage and Self employment programmes" of Planning Commission, 2003

#Districts are excluded among the ranking of 447 districts on index of backwardness

Bihar is densely populated and most of districts of the state have recorded population density of more than 1000 persons per square kilometer. Whereas in Jharkhand, the population density is much less than that of Bihar and shows a wide variation in density starting from 160 to 1284 persons per square kilometer among its districts. The decennial growth rate (2001-11) of human population is also alarmingly high in Bihar as most of the districts have recorded more than 25% growth in a decade (Table 3). Similar high growth rate has also been recorded in half of the districts of Jharkhand. However, some districts of Jharkhand bordering West Bengal has recorded lower population growth rate, similar to West Bengal.

As per the UNDP's HDI ranking of countries based on the performance of health, standard of living and education, the Planning Commission (PC) has followed the similar approach to calculate the HDI of different states of India. However, indicators are somewhat different from UNDP's estimate and instead of absolute value (unit), the value of normalized indicators have been used by PC. These normalized indicators ranging from 0 to 1, representing minimum to maximum value, respectively. The HDI of each district has been taken as an average of all normalized indicators. In a study for EAG states by Singh and Keshari (2016), the overall HDI has been calculated as geometric mean of the three dimension indices namely health index, education index and income index. Based on these indices, the average HDI value of all the districts of EAG states has recorded 0.542, which is below the national average (Singh and Keshari, 2016). Further the HDI value of more than 70% of districts of Bihar and Jharkhand falls below the average HDI of EAG states (Figure 2).

**Figure 2. Population Density, Decennial Growth Rate of Population and HDI of Bihar and Jharkhand**



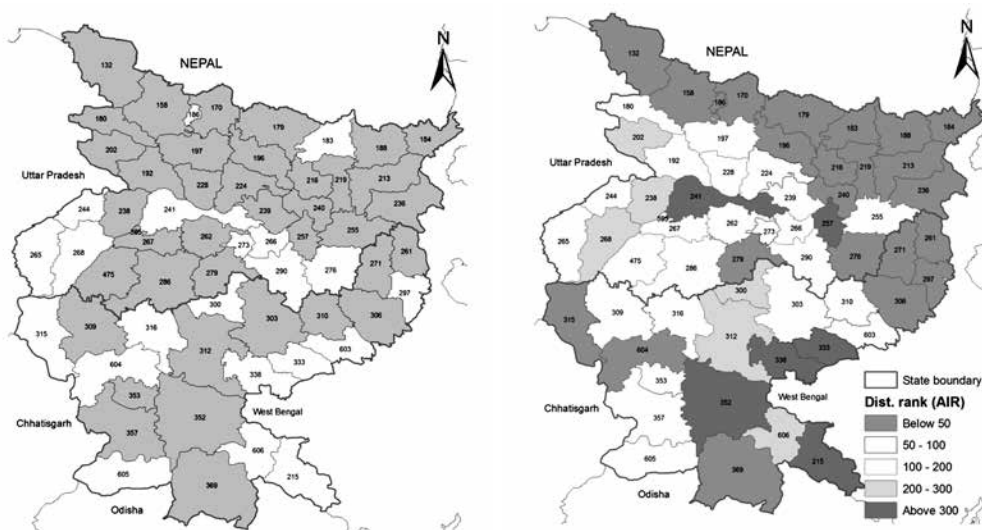
Population density and decennial growth rate

Status of human development index (HDI)

## District Development Indicators

In 1997 a committee headed by Dr. E.A.S. Sarma had submitted a report of 100 most backward districts of the country to the Planning Commission. The identification criteria included direct indicators of human deprivation as well as indirect indicators, which pertain to the quality of life of the people (GoI, 1997). Indicators such as poverty ratio, deprivation in education (literacy, female literacy, etc.), health (health infrastructure/amenities, infant mortality rate, etc.) and other social and economic infrastructure were also given weight-age for this analysis. Out of these 100 most backward districts (MBD) across the country, 38 districts were from undivided Bihar (Figure 3).

**Figure 3 : Distribution of Backward Districts in Bihar and Jharkhand**

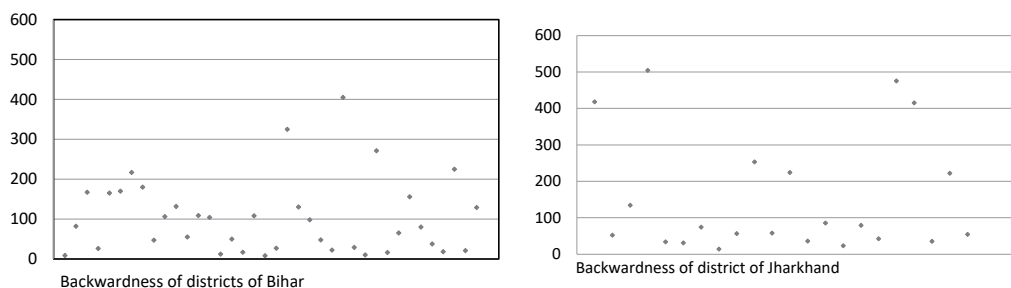


Distribution of 38 most backward district  
[Data source: GoI, 1997]

All in rank (AIR) of backward district  
[Data source: Bakshi et. al., 2015]

A study was carried out by Bakshi et al. (2015) to measure the regional disparities nation-wide and developed a models to quantify the indices of backwardness. The study assigned weight-age to the different constituent components of backwardness such as economic, infrastructure and human development and ranked all the districts of the country accordingly, irrespective of states. The districts across the country has been ranked from 1 to 640 on the basis of backwardness, where rank 1 stands for most backward (least developed) and 640 is most developed. More than 50% districts of both Bihar and Jharkhand state are backward and ranked below 100 in all India ranking (AIR). Only one district of Bihar and four districts of Jharkhand ranked above 400 in AIR (Figure 3&4).

**Figure 4 : Ranking of Backwardness (AIR) among the Districts of Bihar and Jharkhand**





There are several measures to quantify the inter-state and intra-state disparities. For measuring the intensity of intra-state disparity, particularly in the economic front, one of the technique is to compare the best performing district with the worst performing district of the state. By comparing the ratio of the highest per-capita income district to the lowest per-capita income district it is found that the worst performing states are those which have higher ratios, i.e. huge difference between highest and lowest per capita income among districts. Bihar has recorded highest ratio (8.98) in 2004-05 among all states in India followed by Uttar Pradesh (Anonymous, 2012). And this ratio has increased over the time (from 1999-2000 to 2004-05), indicates widening of the gap across districts within the state. Whereas Jharkhand has recorded a lower ratio (2.62) in 2004-05, which is almost constant during the same period. However, this ratio analysis only depict the extreme case, as it consider only the best and worst performing district and does not reflect the performance of other intermediate districts. So the co-efficient of variation may be considered as a measure of disparity which would take the account of all individual districts for the same parameter. Here also Bihar has recorded highest co-efficient of variation (0.61) in 2004-05 among all states of the country and this co-efficient has increased from 0.49 as measured in 1999-2000. This has also indicates the widening inter-district disparities of the state. However, Jharkhand has recorded a lower co-efficient of variation (0.24) in 2004-05 and which is almost remain same over time.

## CONCLUSION

As per as socio-economic and demographic indicators both the state Bihar and Jharkhand present a gloomy picture over few decades. In overall economic parameters both the states are lagging behind in the country. However, in the recent past these states are improving their tallies, particularly in economic front. Bihar is one of the strongest agricultural states. The percentage of population employed in agricultural production in Bihar is around 80%, which is much higher than the national average. It is the third largest producer of vegetables and the sixth largest producer of fruits in India. During last few years Bihar has become one of the fastest growing states in India. The Gross State Domestic Product (GSDP) of Bihar has grown at a CAGR of 12.14% between 2011-12 and 2016-17. The state has also witnessed strong growth in per capita net state domestic product (NSDP). At current prices, per capita NSDP of the state grew at a CAGR of 10.36% during 2011-12 to 2016-17 (IBEF, 2018). Food processing, dairy, sugar, manufacturing and healthcare are some of the fast growing industries in the state. The state has planned initiatives for the development of other sectors such as education and tourism and also provides incentives for information technology and renewable energy projects.

Jharkhand is also one of the leading states in terms of economic growth. The GSDP growth of the state stood at 10.22% in 2017-18 as compared with 6.6% of national average (IBEF, 2018). If this higher growth rate persists over the years, then the state could be considered as one of the advanced state in the near future. Total foreign direct investment (FDI) for Bihar & Jharkhand, between April 2000 and December 2017, stood at US\$ 113 million. However, keeping in view of the present scenario both the state Bihar and Jharkhand will be treated as advanced state if the developmental process continues over the years and shows a consistence growth in successive years. Alarming growth rate of population, high dependency on primary sector, lack of industrial infrastructure and absence of proper long-term vision of development are among the main barriers of this backwardness.

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