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## **SOCIO-ECONOMIC CONDITIONS OF DEVELOPMENT: A CASE STUDY OF BUNDELKHAND REGION**

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### **Abstract**

Development is a process of planning that improves the quality of life of people in any region. Economic planning was adopted through five-year plans to implement the concept of equal regional development and to reduce regional inequalities in the country after independence. The pervasive nature of regional disparities affects both the developed and developing nations. Generally Countries are constituted in the sets of pocket-sized economies. In this Paper, spatio-temporal pattern of socio-economic development in Bundelkhand for the time-period of 2001 and 2011 has been analyzed. As Bundelkhand region is divided into two states; thus, development indicators have been analyzed here with perspectives to get the comprehensive picture of development in the Bundelkhand region. The study has been based on secondary data and Indicators are grouped into five groups- Social, Economic, Infrastructure, Health and Agriculture. The spatial pattern of disparity with respect to each indicator and the spatial pattern of overall disparity have also been discussed further. Suitable statistical tools have been used here for analysis.

### **Key-Words**

Bundelkhand Region, Socio-Economic Development, Regional Development, Disparities.

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### **Introduction:**

The implementation of planned economic development policy has attracted the attention of Indian policymakers towards the problem of regional imbalance since 1951. Regional inequality was emphasized prominently in the Second Five Year Plan. It was also said that adequate attention will be given on the development and investment structure of backward regions in every comprehensive plan to implement in the future. Keeping it in priority, identification of backward regions was emphasized in all subsequent Five Year Plans. In addition, many committees were constituted for making problem-based policies for such regions. These committees have identified many indicators on the basis of development level on which backward regions can be measured. The aim of such schemes was to identify regional disparities in federal countries like India to assess the growth levels with the appropriate distribution of resources between the states.

Bundelkhand region comprises of thirteen districts. Besides its common history and geography now the region is divided into states of Uttar Pradesh and Madhya Pradesh. The region of Bundelkhand is known for its backwardness, but the question is what factors are affecting its development after the longtime of independence? Several studies have been done to find the appropriate answer of its poor condition. In a holistic way there are number of factors including Geographic, Climatic, Social and Economic responsible for its present least developed condition after the huge investment in the post-independence time. Diwakar (2009) in his study finds Bundelkhand region as most backward and least developed region.

### **Review of Literature:**

Socio-economic regional disparities have been a major issue of debate among the intellectual and political spheres since the beginning of the concept of development. It is believed that market-controlled institutional changes, after globalization and liberalization have increased the global economic growth as well as disparities. Therefore, developing countries such as India are facing regional disparities with many countries of the Western world. Over time, there is broad theoretical and empirical form of literature has been developed across the world.

The issues of Regional development and existing socio-economic disparities have been a major issue of debate among the political intellectual, economic planners, demographers and other sociologists. From the beginning of point, they tried to construct, frame and contribute a suitable structure or framework for the better planning of regional development. Hence, some reliable theories has been developed, which are trying to explain the factors and causes of regional disparities or imbalances in the developed and developing world. Frances Perroux (1950) quoted his view of observation on regional development in a famous sentence "growth does not appear everywhere and all at once, it reveals itself in certain points or poles, with different degrees of intensity; it spreads through diverse channels".

H.W. Richardson (1974), G.H. Borts (1974) and others were disagreed with the space less neo-classical theory and adhered for the spatial neo-classical views. According to Richardson there is no compatibility between the space less neo-classical and location theories. Hence, alternative locational linkage and agglomeration benefits (both are related to the spatial factors) were recommended by him.

In the addition, Hughes (1961) stated that the development process can diverge the imbalances. In against Hughes's 'self-perpetuation hypothesis' Hanna (1959) provided convergence in his 'Accordion effect hypothesis'. The 'concentration cycle hypothesis' of Myrdal (1957), Hirschman (1958) Alonso (1968) and Williamson (1968) concluded that the divergence of initial regional inequalities works as inspiration for subsequent convergence. Whereas, Friedman's (1966) 'Center-Periphery model' discussed how the initial location is growing and self-strengthening benefits and the limited benefits of the backward areas are generally equalize with the benefits of agglomeration.

An important study was conducted by Ashok Mitra (1961) by using census data and number of development indicators for district level development analysis. Composite development index was made with the help of co-variance of selected indicators. Simple ranking method was also used and an association between selected indicators and development level's was brought out in his analysis. Beside the complication of procedures, this study became famous for the comparison of levels of development between the regions.

M.N. Pal (1965) compared the less or more developed districts of India to the average level of development of nation. On the basis of composite index of some selected indicators he gave the sectoral development pattern and an image of disparity on the level of regional development.

Nath (1970) have taken state as a regional unit and found inter-regional (inter-state) disparities in India. Analysed with the help of five indicators, He concluded that the top developed states were Maharashtra, and Tamil Nadu. Whereas, Gujarat, West Bengal, Punjab and Kerala reached the relatively advance level of development than other of eight least developed states.

Regional disparities at district level have been examined in two prominent studies by R. D. Singh (2005, 2009). In conclusion he stated that the districts of western India were comparatively more developed than of eastern part. P.R. Panchamukhi (2009), with a clear argument for 'regional justice', has emphasized the creation of new states to achieve balanced regional development. According to him the importance of historical perspective would be useful in understanding such inequalities.

Ranjan Aneja (2013) made an attempt to examine regional disparities in industry sector in Haryana for the time period of 1990-91 to 2010-11. In this study the Principal component analysis (PCA) and deprivation method has been used. The increasing regional disparities have been observed over the time. The major industrial pockets have been found near to NH1 or in NCR region.

## Objectives:

The objective of the study includes:

1. To examine inter- district levels of development in the study area.
2. To examine regional disparities at district level across the states.
3. To identify the factors behind the emergence of disparities and overall Socio Economic development in the region.

## Methodology:

Present study is based on both primary data sources. The major sources of secondary data are the reports published by-

- I. The Census of India.
- II. District level household survey. (DLHS)
- III. Fertilizer Association of India. (FAI)
- IV. District Information System for Education. (DISE)
- V. District Gazetteers of Madhya Pradesh and Uttar Pradesh.

On the basis of above secondary data sources, 21 indicators have been selected rationally on the basis of objectives of the study (Table-1). All the indicators are categorized into five groups named as- Social, Economic, Infrastructure, Health and Agriculture.

Z-Score method of standardization has been used here to make the composite index. Where, the actual value of any indicator is subtracted by their actual mean and divided by standard deviation. Finally, sum of the standardized value of every indicator shows the development composite index. This is very simple in calculation but is the most appropriate in its results. For the 'z score' Smith (1979) has given a formula:-

$$Z_{ij} = \frac{X_{ij} - X_i}{\delta X_i}$$

Where:-

$Z_{ij}$  = Standardized value of the variable  $i$  in district/village  $j$ .

$X_{ij}$  = Actual value of indicator  $i$  in district/village  $j$ .

$X$  = Means value of variable  $i$  in all the districts/villages.

$\delta X_i$  = Standard deviation of variables  $i$  in all districts/villages.

$$\text{Composite Index (CI)} = \sum Z_{ij_1} + Z_{ij_2} + Z_{ij_3} \dots\dots Z_{ij_n}$$

Where:

$Z_{ij_1}, Z_{ij_2}, Z_{ij_3}, \dots\dots Z_{ij_n}$  are the standardized values of various indicators.

Coefficient of variation has been used here to calculate the disparities between the districts/villages.

$$CV = (\partial \text{ of CI} / \text{Mean of CI}) * 100$$

Where:-

CV= Coefficient of Variance

$\partial$  = Standard Deviation, and

CI = Composite Index

**Table 1: List of Indicators**

Groups	S.n.	Code	Indicators
SOCIAL	1	S1	Sex Ratio
	2	S2	Male Literacy Rate
	3	S3	Female Literacy Rate
	4	S4	Percentage of Urban Population
ECONOMIC	5	E1	Percentage of Main Workers in Household Industry Sector
	6	E2	Percentage of Main Workers in Service Sector
	7	E3	Percentage of Households Availing Banking Facilities.
INFRASTRUCTURE	8	I1	Percentage of Households Having Drinking Water Facility at Home
	9	I2	Percentage of Households with Electricity
	10	I3	Percentage of Households Using LPG/ PNG for Cooking
	11	I4	Percentage of Villages Linked with Bus Services
	12	I5	Percentage of Villages Approach to Paved Roads
	13	I6	Number of Primary Schools Per 1000 Populations
HEALTH	14	H1	Number of Primary Health Sub-Centers Per 3000 Populations
	15	H2	Number of Primary Health Centers Per 30000 Populations
	16	H3	Percentage of Women who Received Full Antenatal Check-Ups
	17	H4	Percentage of Women who had Institutional Delivery
	18	H5	Children Aged 12-23 Months Fully Immunized
AGRICULTURE	19	A1	Percentage of Net Cultivated Area to Total Geographical Area
	20	A2	Percentage of Net Irrigated Area to Net Crop Area
	21	A3	Fertilizer Consumption (Tonnes/ hectare)

### Analysis and Findings:

The inter-district analysis of the development framework provides a sound observation for comparison between districts. Since, Bundelkhand as region falls under two state jurisdictions, it would be interesting to look at their development level under different approaches.

### Levels of Development in Bundelkhand:

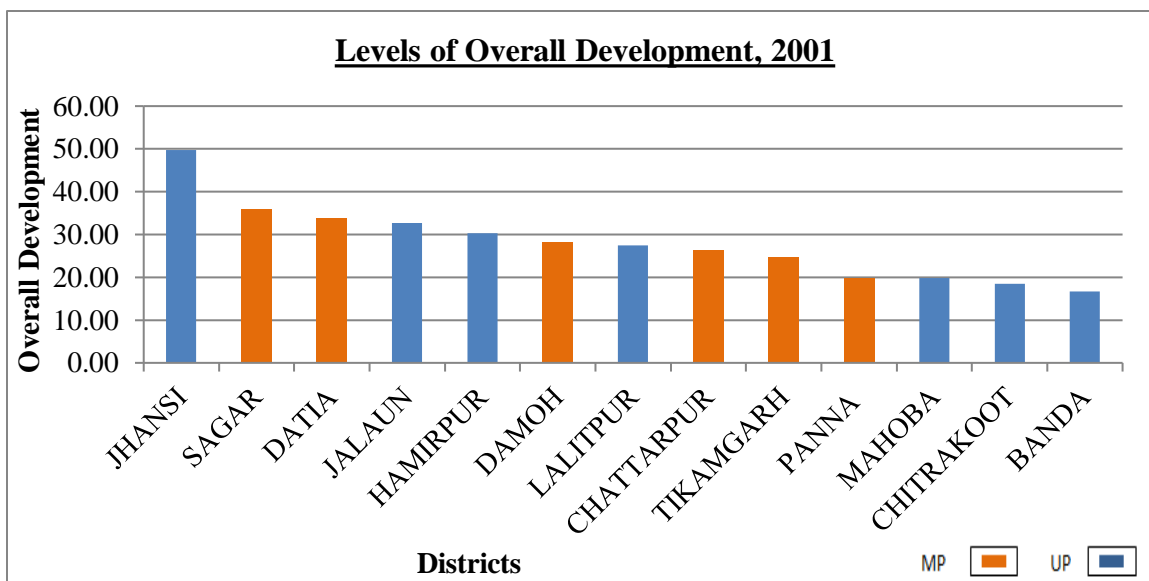
Development of a region is dependent on many factors. The resource possession of the region, the government policies and achievement, and the people's aspiration plays prominent role in achieving this goal. Here, the overall composite development index has been derived by summing up all the sectoral indices (social, economic, infrastructural, health and agricultural), discussed above.

According to year of 2001, out of three categories only Jhansi (49.77) is the only highly developed District in Bundelkhand region and is ranked first. With the rank of 2<sup>nd</sup>, 3<sup>rd</sup>, 4<sup>th</sup>, 5<sup>th</sup> and 6<sup>th</sup> - districts of Sagar (35.94), Datia (33.77), Jalaun (32.69), Hamirpur (30.34), and Damoh (28.26) fall in medium group of socio-economic development respectively. Districts of Lalitpur (27.51), Chhatarpur (26.24), Tikamgarh (24.57), Panna (19.84), Mahoba (19.82), Chitrakoot (18.51) and Banda (16.73) are the poor performers in overall socio-economic development. They have been ranked in descending order from seventh to thirteenth respectively.

In the intra-regional category, Jhansi is top performer while Banda is the worst performer; both are in the Uttar Pradesh side. The Madhya Pradesh side of Bundelkhand is showing more of an average performance in the region. The variation among the best and worst performers is very high. The best performing district has overall development value at 50.0 while the worst performing district's value is almost 18.0.

According to year of 2011, there are three districts in highly developed group. Districts of Jhansi (39.16), Sagar (33.23) and Jalaun (31.85) got top three positions. This is because their better performance in the social, economic and infrastructural sector. Sagar and Jalaun have taken leap forward in figuring in this category. Four districts of Datia (26.66), Damoh (24.64), Hamirpur (24.59) and Lalitpur (23.73) fall in the medium development group and have scored ranks from fourth to seventh respectively. With the low socio-economic development, the remaining six districts of Chhatarpur (21.32), Mahoba (19.86), Tikamgarh (19.52), Panna (18.03), Banda (16.69), and Chitrakoot (12.71) are having rank from eighth to thirteenth.

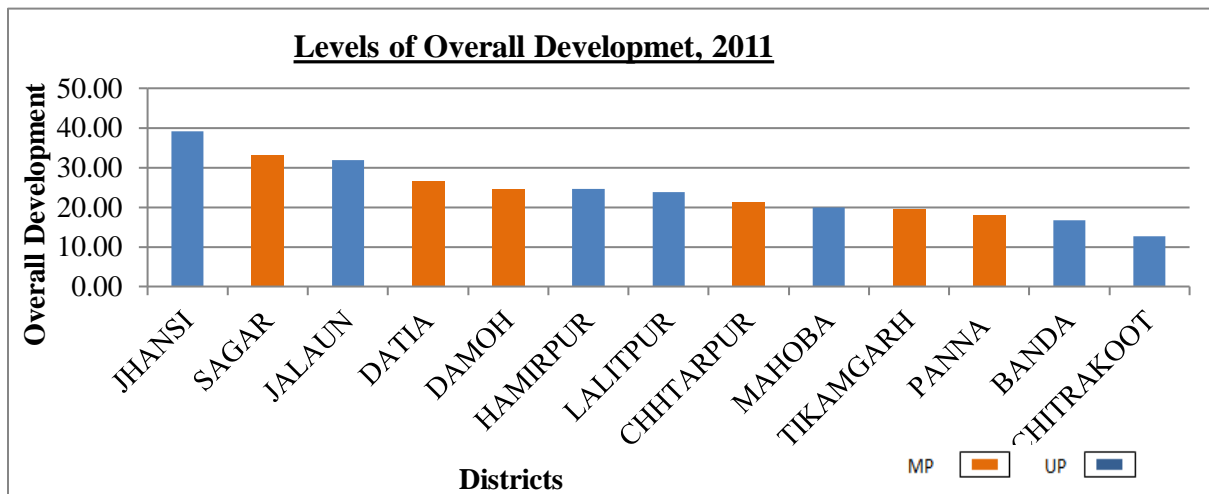
**Figure 1: Levels of Socio-Economic development in Bundelkhand, 2001**



In the intra-regional category, the development is presenting a mixed picture for both Uttar Pradesh and The Madhya Pradesh side. Jhansi and Chitrakoot are the best and the worst performers, respectively, both are in the Uttar Pradesh side of Bundelkhand. The variation between the highest and lowest value is

more than 25.0. It shows high level of intra-regional disparity. The inter-district variation also shows that inter-district disparity is not so steep and if given equitable focus, could match with the high performing districts. The Madhya Pradesh side has more equitable distribution of development that the Uttar Pradesh side.

**Figure 3: Levels of Socio-Economic development in Bundelkhand, 2011**



Above figures are showing the performance of districts in overall socio-economic development of Bundelkhand region. For the temporal changes, ranks from first to thirteenth have been given to the districts according to their development performance (Table 1).

**Table 1: Levels of Overall Development, 2001 and 2011**

Districts	2001	Rank	2011	Rank	Change in Rank
Banda	16.73	13	16.69	12	1
Chattarpur	26.24	8	21.32	8	0
Chitrakoot	18.51	12	12.71	13	-1
Damoh	28.26	6	24.64	5	1
Datia	33.77	3	26.66	4	-1
Hamirpur	30.34	5	24.59	6	-1
Jalaun	32.69	4	31.85	3	1
Jhansi	49.77	1	39.16	1	0
Lalitpur	27.51	7	23.73	7	0
Mahoba	19.82	11	19.86	9	2
Panna	19.84	10	18.03	11	-1
Sagar	35.94	2	33.23	2	0
Tikamgarh	24.57	9	19.52	10	-1



There has not been a major change in the ranks of the districts during the period 2001 to 2011. The ranks of Districts i.e. Chitrakoot (-1), Datia (-1), Hamirpur (-1), Panna (-1) and Tikamgarh (-1) have decreased whereas Mahoba (+2), Banda (+1), Damoh (+1) and Jalaun have increased their ranks in 2011 as compared to 2001. There is no change in the ranks of Jhansi, Sagar, Lalitpur and Chhatarpur as they remained at first, second, seventh and eighth position respectively. It shows that though there has been improvement in some indicators in some district but overall improvement is not at par with the national level.

### Disparity:

Disparities in the levels of socio-economic development are derived with the help of coefficient of variation. Sector wise disparities are shown in the Table 2. Except the magnitude of social disparity (52.72) and (69.65) in both years respectively and economic disparity (65.45) in 2001, all the values of coefficient of variation in each sector are the below 50 percent. There is a decreasing trend of the change in sectoral disparity from 2001 to 2011 except social and agriculture sector. This reflects that the efforts of government for the development of these two sectors are not sufficient. The high percent of tribe population and the economic backwardness of the people may be responsible for increasing social disparity in Bundelkhand region. Similarly, the big problem of water scarcity and uneven trend of rainfall with bad topographic condition in the region are the major cause for the lagging condition of agricultural sector. This left only few possibilities to raise the agricultural development without any huge investment in the region. The overall disparity has been decreased almost one percent (32.00 to 30.6) from 2001 to 2011.

Table 2

Sector-Wise Magnitude of Disparity, 2001 and 2011

Mean/ SD/ CV	Sectors											
	Social		Economic		Infrastructural		Health		Agricultural		Overall	
	2001	2011	2001	2011	2001	2011	2001	2011	2001	2011	2001	2011
<b>SD</b>	2.64	2.79	2.62	1.91	3.24	2.04	2.25	2.19	2.23	2.35	8.96	7.33
<b>MEAN</b>	5.00	4.00	4.00	4.00	7.00	5.00	6.00	6.00	6.00	5.00	28.00	24.00
<b>CV</b>	52.72	69.65	65.45	47.72	46.22	40.90	37.52	36.56	37.12	47.05	32.00	30.56

### Conclusion:

Bundelkhand, being one of the most backward regions of India, has seen a substantial improvement in the level of development during the period 2001-2011. Though there has been some remarkable improvement in some indicators, but in others same district has not performed quite well. This has resulted into balanced overall development. There is need for a holistic development plan to develop the region. The inter-district disparity is also high within the region. In most of the indicators Jhansi, Jalaun, Datia, Sagar etc. has shown high performance while Panna, Banda and Chitrakoot are the least performers. The inter-district disparity is also reflected in almost all the indicators. In the case of intra-regional disparity, both sides have shown variation within and in comparison to each other. The Uttar Pradesh sides, the most of the indicators are lagging than the Madhya Pradesh side, but it is not so stark to give a major noticeable value. The prominence of agricultural economy and the scarcity of social, economic and infrastructural factors are well reflected in the development indicators of the region. In the case of health indicators, the region as a whole is far more backward than the national average.

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