Human Development in Chhattisgarh

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The Old Debate: Growth and Development

For a very long time, economists have measured well being – of societies, economies and people – by the yardstick of income. Growth was measured on the basis of economic indicators like per capita income, production and productivity of the economy, and the status of employment. In effect, an economy that produced more goods and services than another was deemed to be better off. Growth was consequently measured by the increase of aggregate income in an economy. In the last few decades, however, this approach has been challenged by a growing perception that 'the objective of human development is not simply to produce more goods and services for material enrichment, but to increase the capabilities of all people to lead full, productive and satisfying lives.'

Initially articulated by the first Human Development Report of the United Nations Development Programme (UNDP) in 1990, this is a perception that has grown into a global vision. The UNDP stressed that 'the real wealth of a country is its people and the purpose of development is to create an enabling environment for them to enjoy long, creative and healthy lives.' Successive Human Development Reports have asserted that human development is the process of enlargement of people's choices. They have highlighted that there are three essential elements of human development – to enable people to lead long and healthy lives, to access knowledge and education and to possess the resources needed for a reasonable standard of living. Consequently, three areas have been identified as being of primary social concern – health, education and material well-being.

Accordingly, a measure of human development, which is a composite of the key indices of health, education and income was developed. The specific indicators utilised in the construction of this composite measure are life expectancy at birth as an indicator of health; literacy and mean years of schooling (or, as an alternative, the combined enrolment ratio) as a measure of education; and per capita GDP (adjusted for purchasing power parity) as an indicator of material well-being.

These dimensions of development have not been studied systematically for Chhattisgarh so far. The Human Development Report provides the basis for an assessment of its development. Equity (in income, in access to education, in health and gender equity), good governance and sustainable development are a few areas that require urgent attention in the State. A unique feature of the Report is that it is based

not on objective data alone but on people's perceptions as well.

A Human Development Report helps to put people in focus and supports alternative paradigms of development, which are participatory, decentralised and community-centred. The Human Development Index (HDI) constructed for the 16 districts of the State of Chhattisgarh offers a point of comparison across the districts. It describes the current status of development of the State and of each district and provides a benchmark that can serve as a starting point for future development. The State HDR itself is a useful and vital component of participatory planning. The comparison – across districts serves as a basis for prioritisation of distribution of scarce resources – towards areas and groups of people that are relatively disadvantaged and therefore in need of special attention.

Estimating the Measures

Chhattisgarh is a new State and is constrained by the lack of an adequate and reliable database that can be used to assess the progress of development in the different sectors of the economy. There is some data on health and enrolment for the seven districts that were originally part of Madhya Pradesh, but no district-level database for the 16 districts exists. In the preparation of the first Human Development Report of the State, this lack of data was a major concern. The absence of baseline information on important indicators of health, education and income at the district level[1] meant that this data had to be estimated. Available data from various sources as well as

information collected as part of the *Jan Rapat* exercise has been used to construct the HDI.[2]

The literacy figures are from the Census of India, 2001. Data for enrolment was collected from the school education department and has been used to calculate the Education Index. Efforts were made to collect data from all the districts on birth, death, infant mortality rates (IMR) and district income. The Sample Registration System (SRS) of the Census calculates the IMR for the State but does not calculate the district-wise IMR.[3] The district-wise IMR has been estimated from the data collected from the *Jan Rapat* exercise. The IMR has been used to compute the Health Index.

The Directorate of Economics and Statistics, Government of Chhattisgarh and district-level teams of Government officials have calculated the District Domestic Product (DDP). This forms the basis for the construction of the Income Index. These three indices in turn have been used to calculate the State and district-level HDI. The HDI facilitates a juxtaposition of the perception of the People's Reports with objective data, and assists us in viewing human development and its inter-district variations in a comprehensive manner.

Initially, the indices were calculated using the conventional formulae used by UNDP and the Planning Commission of India. The district level HDI presented a picture of the districts, which was very different from common perception and knowledge. This led to a detailed analysis of the data used in calculating all the three indices. The SHDR team realised that the inclusion

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[1] The Government of Madhya Pradesh published Human Development Reports (HDR) in 1995 and 1998. These HDRs calculated the Human Development Index (HDI) for all districts. It is important to remember that these indices were not calculated for all the 16 districts that are part of Chhattisgarh at present, but only for the seven original districts. The current indices have been calculated afresh and are the first such set of indices calculated for the 16 reorganised districts. For the first time, district incomes have been calculated for all 16 districts. Therefore, the current rank of a district is at variance with the ranks, calculated in the two HDRs, for the undivided State of Madhya Pradesh.

[2] For details please refer to technical notes.

[3] The Sample Registration System (SRS) has only 100 units in the State. The SRS division advised the HDR team that this data may not be very representative, and it should therefore not be used for the calculation of district-wise infant mortality rate (IMR).

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of income from mining and quarrying results in a higher income for districts like Dakshin Bastar-Dantewada and Korba. In an attempt to highlight this issue, the team made an attempt to recalculate the income index, without adding the income from the mining and quarrying sector. The difference and changes in the HDI are presented and explained in the Alternate HDI that has been estimated.

Interpreting the Human Development Index

Looking at the components of the HDI, we find that Korba ranked at number one in the income index and at number eleven and twelve in health and education respectively, is the district with the highest HDI rank. Its high-income rank is explained largely by the presence of coalmines and industries in the district. Durg, Mahasamund and Raipur follow Korba. Durg is ranked second in education, Mahasamund is ranked first in the health index and Korba ranks first in income. These three districts have the first three ranks in the HDI values, and Raipur follows in fourth place. Dakshin Bastar Dantewada is ranked ninth in terms of HDI, even though its education index value is the lowest in the State. The high income index (due to the location of the Bailadila iron ore mines) is responsible for its mid-level rank.

Table 6.1 **Human Development Index**

	District	Education Index	Education Index Rank	Health Index	Health Index Rank	Income Index[4]	Income Index Rank	Human Development Index	Districts Ranked as per HDI
1	Bastar	0.527	15	0.132	15	0.134	14	0.264	16
2	Bilaspur	0.723	9	0.411	9	0.214	9	0.449	8
3	Dakshin Bastar Dantewada	0.413	16	0.514	7	0.396	2	0.441	9
4	Dhamtari	0.781	5	0.412	8	0.295	5	0.496	6
5	Durg	0.828	2	0.545	5	0.362	3	0.578	2
6	Janjgir-Champa	0.739	8	0.580	3	0.181	11	0.500	5
7	Jashpur	0.570	14	0.621	2	0.173	12	0.455	7
8	Uttar Bastar Kanker	0.758	7	0.280	12	0.152	13	0.397	12
9	Kabirdham	0.681	11	0.193	13	0.104	16	0.326	15
10	Korba	0.603	12	0.293	11	0.980	1	0.625	1
11	Korea	0.714	10	0.140	14	0.318	4	0.391	13
12	Mahasamund	0.773	6	0.697	1	0.262	7	0.577	3
13	Raigarh	0.790	3	0.295	10	0.205	10	0.430	10
14	Raipur	0.782	4	0.558	4	0.262	6	0.534	4
15	Rajnandgaon	0.838	1	0.063	16	0.221	8	0.374	14
16	Surguja	0.590	13	0.532	6	0.132	15	0.418	11
	Chhattisgarh	**0.711**		**0.392**		**0.310**		**0.471**	

[4] The per capita income has been calculated from the District Domestic Product, which has been estimated by the Directorate of Economics and Statistics, Government of Chhattisgarh. The State per capita income according to this estimate works out to Rs. 10,363, which is substantially higher than the per capita income estimates from the State-level data. The higher per capita income represents some double counting in the estimation process.

The high-ranking districts are largely concentrated in the central plains area of Chhattisgarh. Durg, Mahasamund, Raipur and Janjgir-Champa and Dhamtari all have high HDI ranks. The HDI value of the highest-ranked district, Korba, at 0.625 is close to three times that of Bastar, the lowest-ranked district (0.264) indicating high inter-district inequity. Six districts have HDI values higher than the State average, while ten districts have values that are lower.

Table 6.1 (HDI and its indices calculated according to conventional formulae) show large variations across the three indicators that constitute the HDI. Rarely is the performance of a district consistent across the three indices. Rajnandgaon has the first place in education, is at number 16 in health and in the eighth place in income, but its overall ranking is 14. Similarly, while Dakshin Bastar Dantewada is placed at number 16 in education, at number 7 in health, its relatively high-income rank gives it the ninth position in the HDI values. Korba, ranked at number 11 and 12 in health and education respectively, owes its first place only to its first rank in the income index. Korba's extremely high income index value of 0.980 pushes its HDI value to 0.625, substantially higher than the 0.471 HDI value for the State.

Table 6.2 **Calculation of the indices and the HDI**

Sl. No.	District	Education					Health		Income		Human Development Index Value	Districts Ranked as per HDI Value
		Literacy (%)	Literacy Index Value	Combined Enrolment Ratio (%)	Enrolment Index Value	Education Index Value	IMR (Infant Mortality Rate)	Health Index Value	Per Capita Income at Current Prices, 2000-2001 (Rs.)	Income Index Value		
1	Bastar	43.90	0.439	70.21	0.702	0.527	104.1	0.132	7602	0.134	0.264	16
2	Bilaspur	63.50	0.635	89.81	0.898	0.723	70.7	0.411	8748	0.214	0.449	8
3	Dakshin Bastar Dantewada	30.20	0.302	63.65	0.636	0.413	58.4	0.514	12060	0.396	0.441	9
4	Dhamtari	74.90	0.749	84.60	0.846	0.781	70.6	0.412	10090	0.295	0.496	6
5	Durg	75.60	0.756	97.07	0.971	0.828	54.6	0.545	11367	0.362	0.578	2
6	Janjgir-Champa	65.90	0.659	89.97	0.900	0.739	50.4	0.580	8258	0.181	0.500	5
7	Jashpur	63.80	0.638	43.36	0.434	0.570	45.4	0.621	8135	0.173	0.455	7
8	Uttar Bastar Kanker	72.90	0.729	81.63	0.816	0.758	86.4	0.280	7841	0.152	0.397	12
9	Kabirdham	55.20	0.552	93.96	0.940	0.681	96.9	0.193	7212	0.104	0.326	15
10	Korba	61.70	0.617	57.54	0.575	0.603	84.9	0.293	33763	0.980	0.625	1
11	Korea	63.10	0.631	88.14	0.881	0.714	103.2	0.140	10504	0.318	0.391	13
12	Mahasamund	67.00	0.670	97.85	0.979	0.773	36.3	0.697	9522	0.262	0.577	3
13	Raigarh	70.20	0.702	96.62	0.966	0.790	84.5	0.295	8617	0.205	0.430	10
14	Raipur	68.50	0.685	97.71	0.977	0.782	53.1	0.558	9524	0.262	0.534	4
15	Rajnandgaon	77.20	0.772	97.11	0.971	0.838	112.5	0.063	8856	0.221	0.374	14
16	Surguja	54.80	0.548	67.47	0.675	0.590	56.1	0.532	7573	0.132	0.418	11
	Chhattisgarh	**64.7**	**0.647**	**84.04**	**0.840**	**0.711**	**73**	**0.392**	**10,363**	**0.310**	**0.471**	

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Table 6.2 provides details regarding the calculation of the three indices that constitute the HDI. It is clear that a high rank in one index is not sufficient for a good HDI rank, although a high value in any one of the three indices may give a particular district an advantage.

The table provides information regarding the per capita income of the districts. Korba has the highest per capita income of Rs 33,773 per annum, and Kabirdham has the lowest per capita income of Rs.7,214 per annum. This shows the large gap in the per capita income across the districts. Similarly, the data on health also reflects wide inter-district inequity. The

IMR varies from 36.3 per 1'000 live births in Mahasamund to almost three times as much, 112.5 per 1,000 live births in Rajnandgaon.

However, the two districts with the lowest HDI values (Bastar and Kabirdham) reflect low education, health and income values. These low values point to the need for sustained intervention in all three areas.

Recasting the Income Index and Estimating an Alternate HDI

As indicated, the Directorate of Economics and Statistics, Government of Chhattisgarh

Table 6.3 **Recasting the income index and estimating an alternate HDI**

Sl. No.	District	Education Index Value	Education Index Rank	Health Index Value	Health Index Rank	Alternative Income Index Value	New Income Index Rank	Income Index Rank with mining and quarrying	Alternate Human Development Index	Districts Ranked as per Alternate HDI Value
1	Bastar	0.527	15	0.132	15	0.134	13	14	0.264	16
2	Bilaspur	0.723	9	0.411	9	0.210	8	9	0.448	8
3	Dakshin Bastar Dantewada	0.413	16	0.514	7	0.238	6	2	0.388	12
4	Dhamtari	0.781	5	0.412	8	0.295	3	5	0.496	6
5	Durg	0.828	2	0.545	5	0.339	2	3	0.571	2
6	Janjgir-Champa	0.739	8	0.580	3	0.176	9	11	0.499	4
7	Jashpur	0.570	14	0.621	2	0.173	10	12	0.455	7
8	Uttar Bastar Kanker	0.758	7	0.280	12	0.152	12	13	0.397	10
9	Kabirdham	0.681	11	0.193	13	0.104	14	16	0.326	14
10	Korba	0.603	12	0.293	11	0.594	1	1	0.497	5
11	Korea	0.714	10	0.140	14	0.066	15	4	0.307	15
12	Mahasamund	0.773	6	0.697	1	0.261	4	7	0.577	1
13	Raigarh	0.790	3	0.295	10	0.168	11	10	0.418	9
14	Raipur	0.782	4	0.558	4	0.251	5	6	0.530	3
15	Rajnandgaon	0.838	1	0.063	16	0.221	7	8	0.374	13
16	Surguja	0.590	13	0.532	6	0.055	16	15	0.393	11
	Chhattisgarh	**0.711**		**0.392**		**0.238**			**0.447**	

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has calculated the Net State Domestic Product and district-wise per capita district domestic product for all the 16 districts of Chhattisgarh. The methodology that has been used, is the same as is used by the UNDP and the Planning Commission of India to calculate the Human Development Index across States[5] (See technical notes for details). However, it is important to bear in mind that the income of certain sub-sectors like mining and quarrying does not go directly to the people. Therefore, while the DDP may be high and so also the per capita income as well, these figures do not necessarily reflect the situation on the ground.

In districts like Korba, Dakshin Bastar Dantewada, Surguja and Korea, mining and quarrying account for a major part of the DDP. Companies and public sector undertakings like the National Mining Development Corporation carry out most of the mining and quarrying activities; the income generated does not go to the rural population. Hence, using district income, which includes income from this sub-sector, may not

Table 6.4 **Calculation of the indices and an alternate HDI**

S. No.	District	Education					Health		Income		Alternate Human Development Index	Districts Ranked as per Alternate HDI
		Literacy (%)	Literacy Index Value	Combined Enrolment Ratio (%)	Enrolment Index	Education Index	IMR	Health Index value	Per Capita Income at Current Prices, 2000-2001 (Rs.)	Income Index		
1	Bastar	43.90	0.439	70.21	0.702	0.527	104.1	0.132	7601	0.134	0.264	16
2	Bilaspur	63.50	0.635	89.81	0.898	0.723	70.7	0.411	8694	0.210	0.448	8
3	Dakshin Bastar Dantewada	30.20	0.302	63.65	0.636	0.413	58.4	0.514	9133	0.238	0.388	12
4	Dhamtari	74.90	0.749	84.60	0.846	0.781	70.6	0.412	10090	0.295	0.496	6
5	Durg	75.60	0.756	97.07	0.971	0.828	54.6	0.545	10913	0.339	0.571	2
6	Janjgir-Champa	65.90	0.659	89.97	0.900	0.739	50.4	0.580	8190	0.176	0.499	4
7	Jashpur	63.80	0.638	43.36	0.434	0.570	45.4	0.621	8135	0.173	0.455	7
8	Uttar Bastar Kanker	72.90	0.729	81.63	0.816	0.758	86.4	0.280	7839	0.152	0.397	10
9	Kabirdham	55.20	0.552	93.96	0.940	0.681	96.9	0.193	7212	0.104	0.326	14
10	Korba	61.70	0.617	57.54	0.575	0.603	84.9	0.293	17116	0.594	0.497	5
11	Korea	63.10	0.631	88.14	0.881	0.714	103.2	0.140	6736	0.066	0.307	15
12	Mahasamund	67.00	0.670	97.85	0.979	0.773	36.3	0.697	9509	0.261	0.577	1
13	Raigarh	70.20	0.702	96.62	0.966	0.790	84.5	0.295	8074	0.168	0.418	9
14	Raipur	68.50	0.685	97.71	0.977	0.782	53.1	0.558	9333	0.251	0.530	3
15	Rajnandgaon	77.20	0.772	97.11	0.971	0.838	112.5	0.063	8854	0.221	0.374	13
16	Surguja	54.80	0.548	67.47	0.675	0.590	56.1	0.532	6615	0.055	0.393	11
	Chhattisgarh	**64.7**	**0.647**	**84.04**	**0.840**	**0.711**	**73.0**	**0.392**	**9123**	**0.238**	**0.447**	

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represent the actual income level in the district. Another important aspect that has not been considered at all is the social and environmental cost of this income. Many of the District Reports specifically state that the pollution caused by the mining activity impacts health, agriculture and water. In the light of these two extremely important aspects of the development process, which are hidden in the average figures that the HDI uses, district income has been re-estimated, by taking out the income originating from mining and quarrying. Using this data then, an alternate HDI for Chhattisgarh and its districts has been calculated.

Tables 6.3 and 6.4 relate to the calculation of an alternate HDI and its indices. Table 6.3 shows the three indices and the HDI of the districts and the State of Chhattisgarh. Table 6.4 shows the detailed calculation of the three indices and the HDI of the districts and State of Chhattisgarh, using the alternate formulae.

As expected, the exclusion of income from mining and quarrying from the district domestic product changes the HDI of Chhattisgarh and its districts and their *inter-se* ranking. According to the Alternate HDI, Korba moves from first place to fifth place, Mahasamund moves from third place to first place, Dantewada's position moves from ninth to 12 place, and Rajnandgaon improves its ranking from 14 to 13.

An examination of Table 6.4 shows substantial changes in the per capita income of the districts and a resulting change in the income index values. After subtracting the income from mining and quarrying, the per capita DDP in Korba district drops to nearly half, from Rs 33,763 to Rs.17,116 and this changes Korba's rank from first place to fifth place. In Dakshin Bastar Dantewada, the per capita DDP drops from the original Rs 12,060 to Rs 9,133 per

annum. This changes the income index rank for Dantewada from second to sixth place. Similarly Korea's position changes from the fourth to the fifteenth place.

The construction of an alternate HDI serves to illustrate that even the HDI needs further refinement, as it may not reflect many dimensions of development. It needs to be expanded or adjusted at least in some cases to be able to factor in the specificities of different areas, as well as to counter the drawbacks associated with averages and estimation of per capita income values in general. In fact, to assess the quality of life at the district level an alternate methodology may be required that can encompass some of the ground realities.

Infant Mortality Rates and Health Status – A Note

The initiation of the first Human Development Report of Chhattisgarh meant that district-wise data for infant mortality and life expectancy was required. This was a challenge that was compounded by the creation of nine new districts out of the seven original districts, making a total of 16 districts. District-wise data was not available for all the districts. IMR figures were calculated for seven mother districts using fertility tables from the Census figures for 1991. This data on IMR had information about the poorer pockets, in terms of the prevailing health conditions. An attempt was made to collect IMR data during the State HDR preparation period. The IMR data collected during this current exercise helps in separating areas with low IMRs from those with high IMRs. Within a particular region or district, it points out areas or pockets that have particularly high IMRs.

The sub-division of old districts into new districts has changed the *inter-se* rank of the new districts

in most cases, but these ranks are not strictly comparable. This is because the data for 1991 and 2001 is not comparable, as it represent different geographical areas. While the relative position of Rajnandgaon remains the same in 1991 and 2001, because both Rajnandgaon and Kabirdham (the two districts that were formed out of the original district of Rajnandgaon) are ranked at the bottom of the scale in terms of IMR, this is not the case for many other districts. The relative rank of Bastar district shows the most marked slide, from number one in 1981, with the lowest IMR to number 15 in 2001 with an extremely high IMR. However, this does not necessarily mean a slide in the IMR of Bastar but reflects the cutting away of two areas,

Dantewada and Kanker, with relatively low IMRs. Dantewada, which was originally part of Bastar district, has a low IMR of 58 compared to 104 for Bastar, while Kanker, the third district carved out of Bastar, has an IMR of 86. This specific example shows that comparing the ranks, or even the IMR itself, across 1981, 1991, 2001 and even 2003 can be highly misleading.

The high IMRs in Bastar and other districts do however indicate poor health services and facilities. This poor situation in Rajnandgaon and Bastar districts, as well as Korea and Kabirdham warrant immediate intervention in the health sector.

Table 6.5 **Infant mortality rates**

Name of the district	Infant Mortality Rate (per 1,000 live births)					
	1981	Rank	1991	Rank	2003	Rank
Bastar	117	1	83	3	104	15
Bilaspur	133	6	87	4	70	9
Dakshin Bastar Dantewada	117	1	83	3	58	7
Dhamtari	132	5	91	6	70	8
Durg	128	3	75	1	54	5
Janjgir-Champa	133	6	87	4	50	3
Jashpur	130	4	88	5	45	2
Kanker	117	1	83	3	86	12
Kabirdham	147	7	97	7	96	13
Korba	133	6	87	4	84	11
Korea	126	2	76	2	103	14
Mahasamund	132	5	91	6	36	1
Raigarh	130	4	88	6	84	10
Raipur	132	5	91	5	53	4
Rajnandgaon	147	7	97	7	112	16
Surguja	126	2	76	2	56	6
Chhattisgarh	**NA**		**85**		**73**	