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DISTRICT LEVEL DEVELOPMENT DISPARITIES IN KARNATAKA

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INTRODUCTION:

The Nanjundappa Committee which thoroughly examined the question of regional imbalance in Karnataka (2002) has carried out a massive work of collection and analysis of the appropriate statistical information relating to regional development and under-development. It may be noted that the Committee first carried out the analysis at the taluk level on the ground that local development can be effectively promoted if taluk is regarded as the nodal region which can carry out taluk level micro plans. That is the reason why the Committee after its analysis identified and categorised taluks into developed and backward, and in the latter, into backward, more backward and most backward taluks. From this exercise, the Committee went on to identifying the level of development of the revenue divisions by appropriately aggregating the development scores of the taluks coming under those regions. In the whole exercise, the district as a sub region was not given due attention and no exercise was done to categorise the districts into developed and backward and the latter into backward, more backward and most backward. It may be mentioned here that the report of the Committee in its Table 30.2 (pp. 818-18) presents the district wise cumulative depravation index (CDI) values but does not anywhere indicate district wise comprehensive cumulative development index (CCDI) values.

This omission was perhaps due to the perception of the Committee that the phenomenon of backwardness needed to be tackled at the grass root level and that taluk would be the sub region which would be a more appropriate level at which the grass root level planning ought to be grounded. This perception of the Committee, of course, may be logical and therefore not questionable. However, for a curious reader and also perhaps for a policy maker at district the level the position relating to the developmental status of the district as a higher sub region may be of academic interest, if not anything else. Therefore, it will be of some

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interest to use the same statistical information collected by the committee to build the developmental profile of each of the districts of the State. The present paper is an attempt in the direction of building such a profile for the benefit of the curious readers and perspective policy makers.

METHODOLOGY:

The methodology employed for building the developmental status of the districts of Karnataka is simple. In this exercise we have used the same methodology as employed by the Nanjundappa Committee with a small difference and, that is, instead of aggregating the taluk development values at the revenue division level, as was done by the Committee, we are aggregating the taluk level values at the district level to arrive at the district development profiles.

The Nanjundappa Committee has adopted the indexing method to construct the index. In this method the "indicator for each region is either expressed as: (i) a proportion of the sample average of the indicator or (ii) a number which ranges between 0 and 1 where these limits are determined by the minimum and maximum values, respectively, of the indicator. In both cases, the inverse of the standard deviations of each (normalized) indicator can be used as the weight of the concerned indicator. However, because the latter method implied that the resulting index is sensitive to extreme (especially maximum) values in the series, the Committee used the first method, which is the more robust of the two, where each indicator was expressed as a proportion of the State average. Thus, if the resulting aggregate indicator for a given taluk is less than unity, it can be assumed that the concerned taluk is below the state average in terms of relative development, and be referred to as backward" (HPC FFRI 2002, p. 162).

The indicators taken for the construction of comprehensive Cumulative Development Index (CCDI) are 35 as stated below:

I. AGRICULTURAL AND ALLIED A1: Percentage of total cropped area to net area sown, A2: Percentage of area under food grains to total cropped area, A3: Percentage of area under horticultural crops to total cropped area, A4: Percentage of area under commercial crops to total cropped area, A5: Percentage of net area irrigated to net area a sown, A6: Fertilizer (NPK) consumption in kilograms per hectare (total cropped area), A7: Number of tractors per lakh rural population, A8: Livestock units per lakh rural population A9: per capita bank credit (commercial and regional rural banks) to agriculture (in rupees)

II. INDUSTRY, TRADE AND FINANCE I1: Number of industrial units per lakh population, I2: Percentage of industrial workers to total workers, I3: Per capita development credit by banks, I4: Number of bank branches per lakh population, I5: Number of enterprises engaged in trade, hotels and transport per lakh population

III. INFRASTRUCTURE (ECONOMIC) E1: Number of post offices per lakh population, E2: Number of telephones per lakh population, E3: Road length in kilometers per 100 square kilometres, E4: Proportion of villages having access to all weather roads(in percentage), E5: Railway track in kilometers per 1000 square kilometres, E6: Number of motor vehicles per lakh population, E7: Number of co-operative credit societies (agri. & non-agriculture) per lakh population, E8: Proportion of electrified villages and hamlets to total villages and hamlets, E9: Number of regulated markets and sub-markets (equivalent regulated markets) per lakh population

IV. INFRASTRUCTURE (SOCIAL) S1: Number of doctors (govt. & private) per 10,000 population, S2: Number of government hospital beds per 10,000 population, S3: Literacy rate (in percentage), S4: Pupil-teacher ratio (1st to 10th standard), S5: Percentage of children out of school in the age group 6 - 14 years S6: Number of students enrolled in government and aided first grade degree colleges per lakh population, S7: Percentage of habitations having drinking water facility of 40 or more LPCD

V. POPULATION CHARACTERISTICS P1: Sex ratio, P2: Percentage of urban population to total population, P3: Percentage of SC & and ST population to total population, P4: Percentage of non-agricultural workers to total workers, P5: Percentage of agricultural labourers to total workers

The Nanjundappa Committee used this data set to initially construct, both, sectoral indices as well as Comprehensive Composite Development Index for each of the 175 taluks. There were 6 steps involved in this exercise. (i) In step 1, they initially expressed the raw data as number which ranges between 0 and 1 where these limits are determined by the minimum and maximum values, respectively of the indicators. (ii) In step 2, they computed the weights for each set of sector-specific indicators on the basis of the inverse of the standard deviation for each of these series. Table 1 presents all these sector-specific relative weights and the table also presents weights of the present study, using district as the unit. Further, iii) In step 3, raw data have been normalized. The Committee normalized each of these indicators with respect to their corresponding state averages which is provided directly above the concerned indicator. (iv) In step 4, the Committee uses the above sector-specific weights - along with the normalized data to initially construct an overall index for each sectoral development for each taluk. V) In step 5, the Committee uses these 5 (Agricultural and allied Industrial, Trade and Finance; Infrastructure (economic); Infrastructure (social) and Population Characteristics) sectoral indices to construct an aggregate index of development i.e., CCDI. The weights used for this purpose were: Agriculture (0.256); Industry, Trade and Finance (0.346) Infrastructure (economic) (0.112), Infrastructure (social)(0.248), Population Characteristics (0.038), which correspond to the relative shares of these sectors in the net SDP of Karnataka for 2001. A 10% additional emphasis was given to the indicators reflecting social infrastructure. These same weights have been used for the construction of CCDI at district level by us.

Table 1: Relative Weights of Sector-specific Development Indicators

Ind.	Dis	HPC FRRI	Ind.	Dis	HPC FRRI	Ind.	Dis	HPC FRRI	Ind.	Dis	HPC FRRI	Ind.	Dis	HPC FRRI
A1	0.120	0.131	I1	0.225	0.192	E1	0.130	0.110	S1	0.134	0.165	P1	0.245	0.313
A2	0.106	0.096	I2	0.213	0.208	E2	0.105	0.094	S2	0.188	0.157	P2	0.207	0.185
A3	0.099	0.101	I3	0.201	0.200	E3	0.105	0.162	S3	0.126	0.112	P3	0.163	0.176
A4	0.110	0.087	I4	0.190	0.193	E4	0.094	0.066	S4	0.121	0.143	P4	0.179	0.178
A5	0.111	0.088	I5	0.171	0.208	E5	0.137	0.101	S5	0.145	0.189	P5	0.206	0.148
A6	0.089	0.106				E6	0.126	0.130	S6	0.148	0.127			
A7	0.131	0.143				E7	0.102	0.102	S7	0.138	0.107			
A8	0.104	0.118				E8	0.085	0.075						
A9	0.130	0.131				E9	0.116	0.160						

* ind.= Indicator, Dis = Computed taking districts as units,

HPC FRRI=High Power Committee on Redressal of Regional Imbalances

The district wise absolute information in respect of each of the indicators relating to the 5 specific sectors is presented in Appendix I to V. As can be seen from this appendix, these data are presented separately for agriculture sector, industrial sector, economic infrastructure, social infrastructure and demographic characteristics respectively in Appendix Tables No. I to VI. Based on the appendix tables we have first worked out the sector-wise CCDI for all the districts and their ranks, and then we have also worked out the aggregated CCDI in respect of each district. This information is presented in Table 2.

RESULTS:

The results of the exercise relating to district wise CCDI in regard to sectors and districts are as follows:

It can be seen from Table 2, the first 5 ranks in terms of level of development go to Dakshina Kannada, Udupi, Kodagu, Bangalore Urban and Chikmagalore districts. The next five ranks are taken by Shimoga, Dharwad, Bangalore Rural, Mysore and Hasan districts. Next to these districts, the ranks from 11 to 15 go to Uttar Kannada, Davangere, Mandya, Gadag and Belgaum. Belgaum gets the 15th rank and that happens to be State average level of development. Belgaum gets a CCDI value of 1.00, which is assumed to be the development level value for the State as a whole.

Table 2: District wise and Sector wise CCDI and its Ranks during 2001

District	Agriculture & Allied		Industry, Trade & Finance		Economic Infrastructure		Social Infrastructure		Population		CCDI	
	Index	Rank	Index	Rank	Index	Rank	Index	Rank	Index	Rank	Index	Rank
D.Kannada	1.41	5	2.05	1	1.1	9	1.78	2	1.4	3	1.69	1
Udipi	1.27	9	1.63	3	1.11	7	2.41	1	1.11	7	1.65	2
Kodagu	2.01	1	1.69	2	1.17	4	1.38	3	1.3	4	1.62	3
Bangalore Urban	1.47	3	1.44	4	1.87	1	1.28	4	2.66	1	1.5	4
Chikmagalur	1.48	2	1.2	7	1.03	12	1.02	14	1.01	11	1.2	5
Shimoga	1.43	4	1.13	8	0.98	16	1.15	8	1.04	9	1.19	6
Dharwad	1.12	14	1.31	5	1.27	2	1.03	13	1.28	5	1.19	7
Bangalore Rural	1.18	10	1.09	9	0.86	22	1.1	9	0.92	18	1.08	8
Mysore	0.92	21	1.21	6	1.03	13	1.07	11	1.08	8	1.08	9
Hassan	1.16	12	0.87	15	1.12	6	1.18	7	1.22	6	1.06	10
Uttara Kannada	0.92	22	0.94	12	1.25	3	1.18	6	1.73	2	1.06	11
Davanagere	1.31	7	0.88	14	0.91	19	0.96	18	0.94	14	1.01	12
Mandya	1.3	8	0.74	23	0.99	15	1.09	10	0.95	13	1.01	13
Gadag	1.02	18	1.01	11	1.15	5	0.91	20	0.96	12	1	14
Belgaum	**1.15**	**13**	**1.03**	**10**	**1.1**	**8**	**0.75**	**25**	**0.93**	**17**	**1**	**15**
Chikkaballapur	1.17	11	0.67	26	0.81	24	1.18	5	0.91	19	0.95	17
Haveri	1.07	17	0.84	17	1.07	10	0.94	19	0.86	21	0.95	18
Bellary	1.12	15	0.93	13	1.06	11	0.76	23	0.82	22	0.95	19
Bagalkote	1.08	16	0.84	16	0.94	17	0.84	22	0.89	20	0.91	20
Tumkur	0.86	26	0.82	18	0.92	18	1.04	12	0.94	15	0.9	21
Chitradurga	0.91	23	0.78	21	0.87	21	1	15	0.77	25	0.88	22
Ramanagara	0.9	24	0.81	19	0.69	28	1	16	1.01	10	0.87	23
Chamrajanagar	0.88	25	0.79	20	0.7	27	0.88	21	0.71	27	0.82	24
Bidar	0.76	27	0.76	22	0.89	20	0.69	26	0.75	26	0.76	25
Koppal	0.93	20	0.71	24	0.76	26	0.61	28	0.67	29	0.74	26
Bijapur	0.75	28	0.62	27	0.83	23	0.76	24	0.82	23	0.72	27
Raichur	0.93	19	0.59	28	0.65	29	0.58	29	0.67	28	0.68	28
Gulburga	0.67	29	0.58	29	0.77	25	0.63	27	0.78	24	0.64	29

Source: Computed from the data available in HPC FRRI (2002)

From the above it is clear that 15 districts are in the category of above the State average level of development. The remaining 14 districts fall below the State average level. The five tail-end districts are Gulbarga, Raichur, Bijapur, Koppal and Bidar. Incidentally these are the districts which roughly come

under the Hyderabad-Karnataka region. The remaining 9 districts which are above the level of Hyderabad Karnataka region are Chamarajnagar, Ramanagar, Chitradurga, Tumkur (which are incidentally in the old Mysore area) followed by Bagalkot, Bellary, Haveri, Chikkaballapur (the first three are from the North Karnataka region and the last one is from old Mysore region).

It is difficult to explain the reason for these districts taking the lower or higher ranks based only on secondary data. However, an inspection of the data relating to sector wise CCDI may throw some broad light. In the first place, it may be seen that in respect of the first 9 districts which are above the State average they have ranks which actually more or less correspond to the ranks they get in respect of the industry, trade and finance sectors. More or less this is the pattern one gets in regard to population characteristics. As for agriculture sector at least the first six CCDI rank holding districts roughly correspond with this sector ranks and that is true of the first eight districts which have more or less corresponding ranks with the social infrastructure sector. It is in respect of economic infrastructure that the relationship with overall district ranks does not correspond with the ranks of economic infrastructure. In respect of the districts which get lower CCDI value there is more or less a corresponding relationship with the ranks in respect of each of the sectoral CCDI ranks.

From this analysis two points become evident: one, the deficit experienced in regard to sectoral development stands out as an important factor in pulling the backward districts down the State average level of development. Second, the deficit experienced specially in regard to industry and trade sector, and economic infrastructure appears to be a more important factor in pulling the backward districts down the State average level of development. Therefore, any in depth field study should investigate the fact of how far the deficiencies in respect of the industry and economic infrastructure have contributed to comparative under development of the backward districts.

Table 3: District wise CCDI and its Ranks during 2001

Agriculture & Allied		Industry, Trade & Finance		Economic Infrastructure		Social Infrastructure		Population		CCDI	
Relatively Developed											
Kodagu	2.01	D.Kannada	2.05	Bangalore (U)	1.87	Udipi	2.41	Bangalore (U)	2.66	D.Kannada	1.69
Chikmagalur	1.48	Kodagu	1.69	Dharwad	1.27	D.Kannada	1.78	U. Kannada	1.73	Udipi	1.65
Bangalore (U)	1.47	Udipi	1.63	U. Kannada	1.25	Kodagu	1.38	D.Kannada	1.4	Kodagu	1.62
Shimoga	1.43	Bangalore (U)	1.44	Kodagu	1.17	Bangalore (U)	1.28	Kodagu	1.3	Bangalore (U)	1.5
D.Kannada	1.41	Dharwad	1.31	Gadag	1.15	Chikkaballapur	1.18	Dharwad	1.28	Chikmagalur	1.2
Kolar	1.32	Mysore	1.21	Hassan	1.12	U. Kannada	1.18	Hassan	1.22	Shimoga	1.19
Davanagere	1.31	Chikmagalur	1.2	Udipi	1.11	Hassan	1.18	Udipi	1.11	Dharwad	1.19
Mandya	1.3	Shimoga	1.13	Belgaum	1.1	Shimoga	1.15	Mysore	1.08	Bangalore (R)	1.08
Udipi	1.27	Bangalore (R)	1.09	D.Kannada	1.1	Bangalore (R)	1.1	Shimoga	1.04	Mysore	1.08
Bangalore R	1.18	Belgaum	1.03	Haveri	1.07	Mandya	1.09	Ramanagara	1.01	Hassan	1.06
Chikkaballapur	1.17	Gadag	1.01	Bellary	1.06	Mysore	1.07	Chikmagalur	1.01	U. Kannada	1.06
Hassan	1.16			Chikmagalur	1.03	Tumkur	1.04			Davanagere	1.01
Belgaum	1.15			Mysore	1.03	Dharwad	1.03			Mandya	1.01
Dharwad	1.12			Kolar	1.01	Chikmagalur	1.02			Gadag	1
Bellary	1.12					Chitradurga	1			Belgaum	1
Bagalkote	1.08					Ramanagara	1				
Haveri	1.07										
Gadag	1.02										
Backward											
Raichur	0.93	U. Kannada	0.94	Mandya	0.99	Kolar	0.96	Gadag	0.96	Kolar	0.96
Koppal	0.93	Bellary	0.93	Shimoga	0.98	Davanagere	0.96	Mandya	0.95	Chikkaballapur	0.95
Mysore	0.92	Davanagere	0.88	Bagalkote	0.94	Haveri	0.94	Davanagere	0.94	Haveri	0.95
U. Kannada	0.92			Tumkur	0.92	Gadag	0.91	Tumkur	0.94	Bellary	0.95
Chitradurga	0.91			Davanagere	0.91			Kolar	0.94	Bagalkote	0.91
Ramanagara	0.9			Bidar	0.89			Belgaum	0.93	Tumkur	0.9
Chamrajanagar	0.88							Bangalore (R)	0.92		
								Chikkaballapur	0.91		
								Bagalkote	0.89		
More Backward											
Tumkur	0.86	Hassan	0.87	Chitradurga	0.87	Chamrajanagar	0.88	Haveri	0.86	Chitradurga	0.88
		Bagalkote	0.84	Bangalore (R)	0.86	Bagalkote	0.84	Bellary	0.82	Ramanagara	0.87
		Haveri	0.84	Bijapur	0.83			Bijapur	0.82	Chamrajanagar	0.82
		Tumkur	0.82	Chikkaballapur	0.81						
		Ramanagara	0.81								

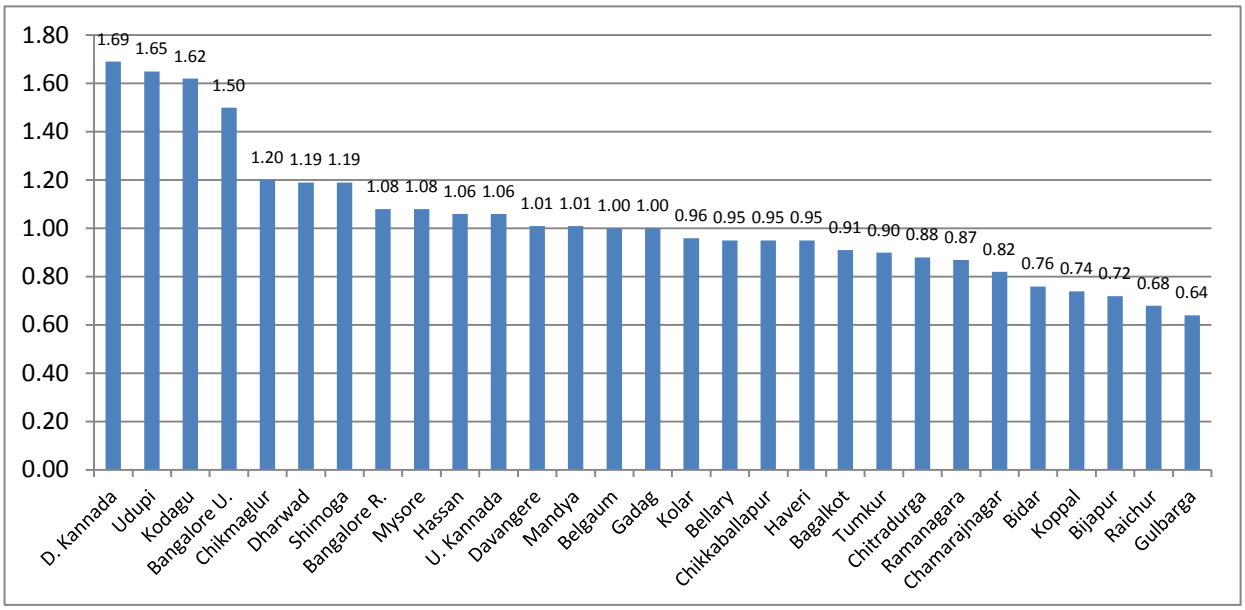
Most Backward

Bidar	0.76	Chamrajanagar	0.79	Gulburga	0.77	Bellary	0.76	Gulburga	0.78	Bidar	0.76
Bijapur	0.75	Chitradurga	0.78	Koppal	0.76	Bijapur	0.76	Chitradurga	0.77	Koppal	0.74
Gulburga	0.67	Bidar	0.76	Chamrajanagar	0.7	Belgaum	0.75	Bidar	0.75	Bijapur	0.72
		Mandya	0.74	Ramanagara	0.69	Bidar	0.69	Chamrajanagar	0.71	Raichur	0.68
		Koppal	0.71	Raichur	0.65	Gulburga	0.63	Raichur	0.67	Gulburga	0.64
		Kolar	0.68			Koppal	0.61	Koppal	0.67		
		Chikkaballapur	0.67			Raichur	0.58				
		Bijapur	0.62								
		Raichur	0.59								
		Gulburga	0.58								

Source: Computed from the data available in HPC FRRI (2002)

Now a word about the backward districts. On the basis of the CCDI, the districts are, of course, classified into developed and backward and, under the latter, they are further classified into backward, more backward and most backward. Table 3 presents the districts as per the above classification. It may be seen that there are 13 developed districts starting from Dakshina Kannada to Mandya and the remaining 16 districts are backward. Among the backward districts eight are backward which are distributed across Bangalore, Belgaum and Gulbarga divisions. Thus Gulbarga, Belgaum Bagalkote and Haveri which, belong to Belgaum division, Bellary under Gulbarga division, and Kolar, Chikballapur and Tumkur of Bangalore division are backward districts by the development indicators employed by the Nanjundappa Committee. Three districts namely Chitradurga, Ramanagar and Chamarajnagar come under the category of more backward districts which belong to Bangalore and Mysore divisions. The remaining five districts viz., Bidar, Koppal, Raichur and Gubarga of Gulbarga division, and Bijapur of Belgaum division emerge as the most backward districts. From this analysis it is evident that backwardness is spread across all the four divisions but a majority of the most backward districts come under Gulbarga division suggesting that the Hydrabad-Karnataka region is the most backward region.

Figure1: District wise CCDI and its Ranks during 2001



Source: Table 2

DISTRICT BY SECTOR WISE CATEGORY WISE CCDI:

In the above analysis we have analysed districts coming broadly under two categories by CCDI, namely, relatively developed and relatively backward. It may be now of some interest to classify the backward districts into backward, more backward and most backward categories. Table 4, which presents this information, shows that there are 15 relatively developed districts and 14 relatively backward districts. Of the 14 relatively developed districts 6 come under the backward category, 3 under more backward and 5 under most backward categories.

Table 4: Sector wise and category wise CCDI and number of Districts

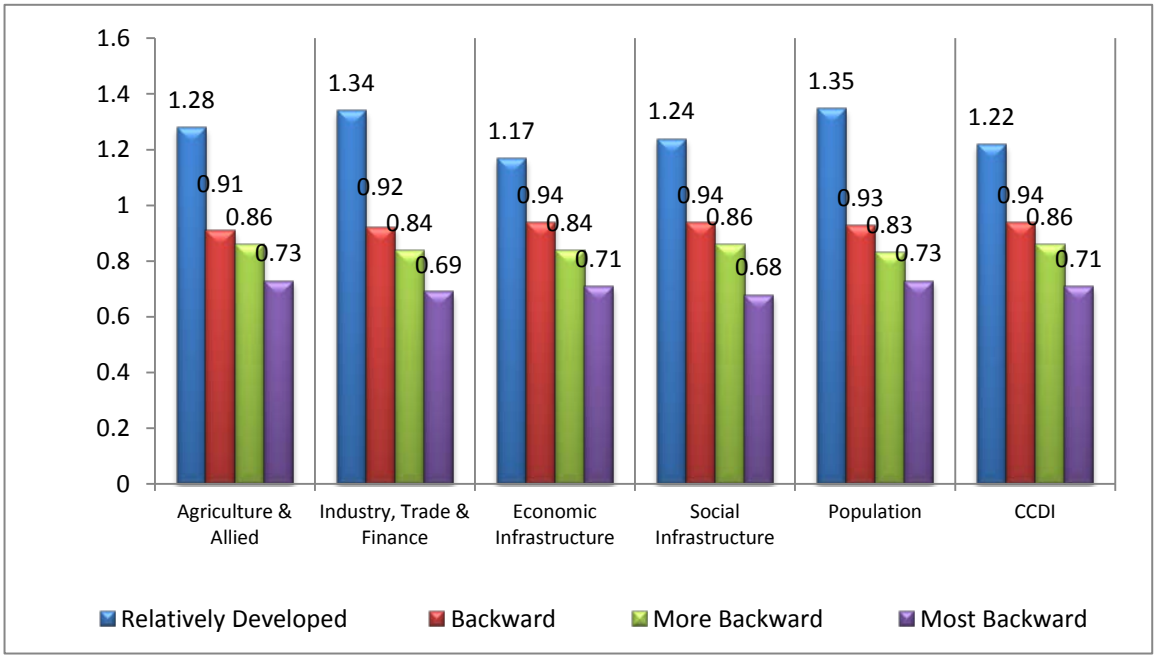
Category	Agriculture & Allied	Industry, Trade & Finance	Economic Infrastructure	Social Infrastructure	Population	CCDI
Relatively Developed	1.28 -18	1.34 -11	1.17 -14	1.24 -16	1.35 -11	1.22 -15
Backward	0.91 -7	0.92 -3	0.94 -6	0.94 -4	0.93 -9	0.94 -6
More Backward	0.86 -1	0.84 -5	0.84 -4	0.86 -2	0.83 -3	0.86 -3
Most Backward	0.73 -3	0.69 -10	0.71 -5	0.68 -7	0.73 -6	0.71 -5

Note: Figures in the brackets are number of districts

Source: Computed from the data available in HPC FRRI (2002)

If we look at these districts sector wise, scenario some what changes. Thus, taking agriculture sector as the base the relatively developed districts would go up to 18 and the relatively backward come down 11. Of this the backward districts would be 7 and more & the most backward districts would be one and three respectively. Going by industry etc., the relatively backward districts go up to 18 which suggests that these districts are industrially less developed. Same can be said about the development status of the relatively backward districts seen in terms of the other sectoral status mainly economic and social infrastructure and population. Figure 2 presents a visual picture of districts by sector and category using the CCDI.

Figure 2: Sector wise and category wise CCDI



Source: Table 4

COMPARISON OF DEVELOPMENT LEVEL WITH PER CAPITA INCOME AND HDI LEVEL

Table 5 presents a comparative account of districts by CCDI, CDI, PCI (Per capita Income) and HDI (Human Development Index). Going by CCDI, 15 are counted as relatively developed and same 15 districts are counted as not relatively backward as per CDI. However the same cannot be said when we take PCI because Mandy, Davangere and Hassan fall under the category of relatively backward districts. If we go by HDI only, one district, namely Davangere fall under category of relatively backward district. Therefore, there does not appear to be a perfect one to one relationship between CCDI and CDI on the one hand and per capita income and HDI on the other in respect of the relatively developed districts.

Table 5: District wise CCDI, CDI, PCI and HDI for 2001

District	CCDI		CDI		Per Capita Income (1999-00 Prices)		HDI	
	Value	Rank	Value	Rank	Value	Rank	Value	Rank
Dakshina Kannada	1.69	1	-0.69	29	28717	2	0.722	2
Udupi	1.65	2	-0.65	28	21919	5	0.714	3
Kodagu	1.62	3	-0.62	27	24662	3	0.697	4
Bangalore Urban	1.5	4	-0.5	26	35283	1	0.753	1
Chikmaglur	1.2	5	-0.2	25	19928	6	0.647	9
Dharwad	1.19	6	-0.19	23	17887	8	0.642	10
Shimoga	1.19	6	-0.19	23	17315	9	0.673	5
Bangalore Rural	1.08	8	-0.08	21	24171	4	0.653	6
Mysore	1.08	8	-0.08	21	19195	7	0.631	14
Hassan	1.06	10	-0.06	19	14260	18	0.639	11
Uttara Kannada	1.06	10	-0.06	19	17128	10	0.653	7
Davangere	1.01	12	-0.01	17	14489	16	0.635	12
Mandya	1.01	12	-0.01	17	14114	20	0.609	19
Belgaum	**1**	14	0	15	15858	14	0.648	8
Gadag	1	14	0	15	14535	15	0.634	13
Kolar	0.96	16	0.04	14	14174	19	0.625	17
Bellary	0.95	17	0.05	11	16790	11	0.617	18
Chikkaballapur	0.95	17	0.05	11				
Haveri	0.95	17	0.05	11	12579	24	0.603	20
Bagalkot	0.91	20	0.09	10	16250	12	0.591	22
Tumkur	0.9	21	0.1	9	13535	22	0.63	15
Chitradurga	0.88	22	0.12	8	14008	21	0.627	16
Ramanagara	0.87	23	0.13	7				
Chamarajnagar	0.82	24	0.18	6	14313	17	0.576	25
Bidar	0.76	25	0.24	5	11515	26	0.599	21
Koppal	0.74	26	0.26	4	16227	13	0.582	24
Bijapur	0.72	27	0.28	3	13518	23	0.589	23
Raichur	0.68	28	0.32	2	11256	27	0.547	27
Gulbarga	0.64	29	0.36	1	12522	25	0.564	26
Karnataka					17265		**0.65**	

Source: Computed from the data available in HPC FRRI (2002), Karnataka Human Development Report 2005 and Karnataka at a Glance

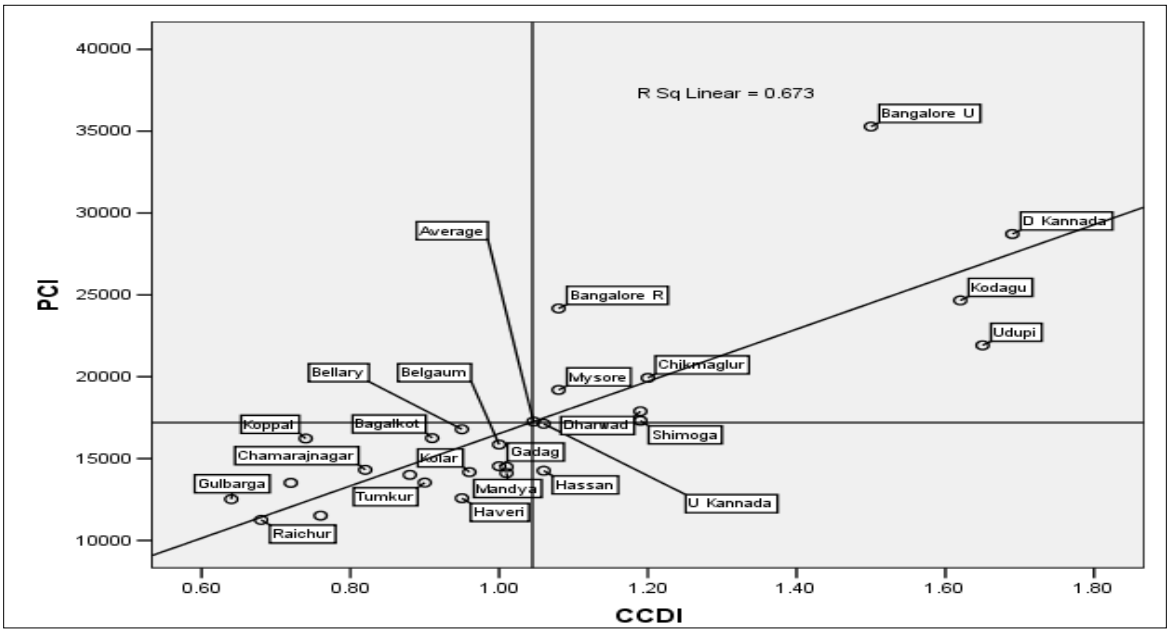
When we look at the relatively backward districts there is some degree of relationship between CCDI on the one hand and CDI on the other; but the same cannot be said about the relationship between CCDI and CDI on the one hand, and PCI and HDI on the other can be seen from Table 6. These relationships are also depicted in the scatter diagrams given in the figure 3 and 4.

Table 6: Correlation coefficients -Development Level with per capita income and HDI level

Correlations	CCDI	CDI	PCI	HDI
CCDI	1.00			
CDI	-1.00	1.00		
PCI	0.82	-0.82	1.00	
HDI	0.93	-0.93	0.85	1.00

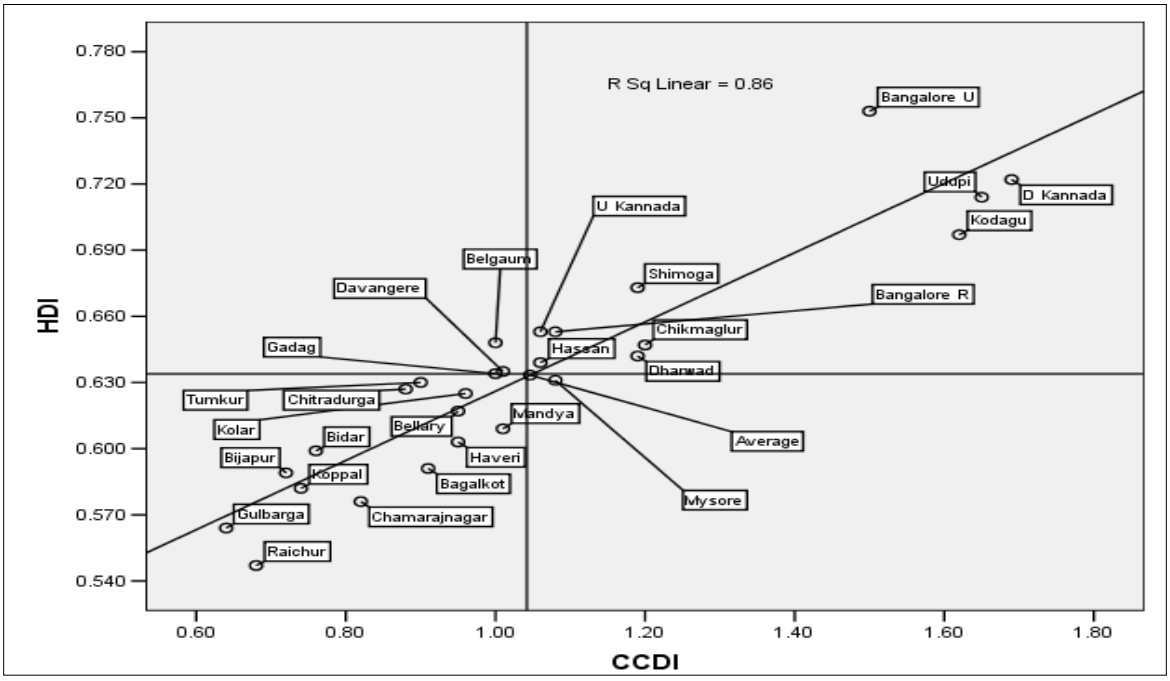
Source: Table 5

Figure 3: Relationship between CCDI and PCI



Source: Table 5

Figure 4: Relationship between CCDI and HDI



Source: Table 5

THE WAY FORWARD:

Backwardness needs to be tackled and the strategy followed by the Nanjundappa Committee was, among others, formulation and implementation of a Special Development Plan. At this point, a question that arises is what should be the size of this plan and how the outlay of this plan should be distributed across the backward regions. It may be recalled that the Nanjundappa Committee recommended an additional outlay of Rs. 16000 crore at 2002 prices for the eight year period between 2002 and 2010 to be allocated to the backward regions. It further stated that the allocation pattern should be consistant with the composite deprivation Index (CDI).

The Committee did provide a CDI for the four divisions (Table 4) and 175 taluks, but did not provide CDI for the districts as such. On the basis of our own exercise, we have presented in Table 5 CDI in respect of all the districts of the State instead of only the backward districts. An additional exercise that we have done is to work out the CDI of each of the backward districts with regard to the five sectors namely Agriculture, Industry, Economic Infrastructure, Social Infrastructure and Population Characteristics. The results of this exercise are also presented in Table 5.

From these exercises a few policy related points will emerge. In the first place more resources should go to the most backward region of Gulbarga division and the rest should be distributed across the other three divisions. The quantum of resources should be in proportion to the CDI value. The second point is, the point relating to distribution across the five sectors. Of course, this also has to be on the basis of the weights assigned by the Committee for these sectors which are shown in Table 7.

From the CDI in respect of these sectors it is evident that some kind of a prioritization has to be worked out for the purpose of resource allocation. Which has to be on the basis of the number of backward, more backward, and most backward districts as defined by the sectoral CDI. An examination of Table 5 shows that if one goes by the CDI only a small number of 11 districts need attention as for the development of agriculture is concerned. This is so because 18 districts are considered to be developed by this indicator. Similarly, in respect of social infrastructure only 13 districts need to be given attention for development. For economic infrastructure and population characteristics the districts that require attention are 15 and 16 respectively.

Table 7: District wise and Sector wise Composite Deprivation Index

District	Agriculture & Allied	Industry, Trade & Finance	Economic Infrastructure	Social Infrastructure	Population	Total CDI
D.Kannada	-0.41	-1.05	-0.1	-0.78	-0.4	-0.69
Udipi	-0.27	-0.63	-0.11	-1.41	-0.11	-0.65
Kodagu	-1.01	-0.69	-0.17	-0.38	-0.3	-0.62
Bangalore Urban	-0.47	-0.44	-0.87	-0.28	-1.66	-0.5
Chikmagalur	-0.48	-0.2	-0.03	-0.02	-0.01	-0.2
Shimoga	-0.43	-0.13	0.02	-0.15	-0.04	-0.19
Dharwad	-0.12	-0.31	-0.27	-0.03	-0.28	-0.19
Bangalore Rural	-0.18	-0.09	0.14	-0.1	0.08	-0.08
Mysore	0.08	-0.21	-0.03	-0.07	-0.08	-0.08
Hassan	-0.16	0.13	-0.12	-0.18	-0.22	-0.06
Uttara Kannada	0.08	0.06	-0.25	-0.18	-0.73	-0.06
Davanagere	-0.31	0.12	0.09	0.04	0.06	-0.01
Mandya	-0.3	0.26	0.01	-0.09	0.05	-0.01
Gadag	-0.02	-0.01	-0.15	0.09	0.04	0
Belgaum	-0.15	-0.03	-0.1	0.25	0.07	0
Kolar	-0.32	0.32	-0.01	0.04	0.06	0.04
Chikkaballapur	-0.17	0.33	0.19	-0.18	0.09	0.05
Haveri	-0.07	0.16	-0.07	0.06	0.14	0.05
Bellary	-0.12	0.07	-0.06	0.24	0.18	0.05
Bagalkote	-0.08	0.16	0.06	0.16	0.11	0.09
Tumkur	0.14	0.18	0.08	-0.04	0.06	0.1
Chitradurga	0.09	0.22	0.13	0	0.23	0.12
Ramanagara	0.1	0.19	0.31	0	-0.01	0.13
Chamrajanagar	0.12	0.21	0.3	0.12	0.29	0.18
Bidar	0.24	0.24	0.11	0.31	0.25	0.24
Koppal	0.07	0.29	0.24	0.39	0.33	0.26
Bijapur	0.25	0.38	0.17	0.24	0.18	0.28
Raichur	0.07	0.41	0.35	0.42	0.33	0.32
Gulburga	0.33	0.42	0.23	0.37	0.22	0.36

Source: Computed from the data available in HPC FRRI (2002)

But in respect of industry and trade a larger proportion of districts namely 18 districts require attention. Obviously when allocation is made not only development weightage but also the number of districts that need attention ought to be considered. But since backward taluks are found even in the so called relatively developed districts, resource allocation cannot be stopped to those districts.

REFERENCES:

- HPC FRRI (2002), High Power Committee on Redressal of Regional Imbalances, Government of Karnataka
- Karnataka at a Glance, Various Issues
- Karnataka Human Development Report 2005, Government of Karnataka

Appendix Table 1: District wise Indicators on Agricultural and Allied Activities during 2001

	A1	A2	A3	A4	A5	A6	A7	A8	A9
Districts	% of Total cropped area to net area sown	% of area under food grains to total cropped area	% of area under horticultural crops to total cropped area	% of area under commercial crops to total cropped area	% of net irrigated to net area sown	NPK in Kgs per hectare	Number of tractors per 000 hectares	Livestock units per lakh rural population	Per capita bank credit to agriculture
Bagalkote	115.6	60.9	2.24	36.71	40.9	72.1	9.8	45690	655
Bangalore Rural	107.5	64.1	6.96	12.73	18.4	190.3	15.9	65529	298
Bangalore Urban	116	72.3	7.64	9.18	24.3	249.9	37.5	31555	26
Belgaum	115.1	54.65	2.15	41.01	38	133.1	12.2	40967	669
Bellary	116.9	50.53	2.03	47.41	30.4	161.3	9.8	55243	573
Bidar	122.2	81.09	0.6	29.31	9.8	39.5	3.3	40679	628
Bijapur	109.9	66.47	2.01	31.49	15.3	34.2	4.9	33873	431
Chamrajanagar	116.3	51.17	1.99	46.81	27	94.8	6.2	47646	249
Chikkaballapur	105.6	45.87	8.73	42.93	23.9	152.9	9.3	43268	419
Chikmagalur	109.9	48.03	2.61	49.27	8.9	127	9.6	57161	2389
Chitradurga	113.8	38.96	4.4	56.36	12.7	59	6.5	48379	395
D.Kannada	124.5	45.09	22.8	31.5	51.3	97.5	1.1	36738	19
Davanagere	126.3	68.77	2.74	28.38	33.8	151	20.1	51882	688
Dharwad	141.8	46.3	8.18	44.64	12.1	70.8	13	45421	400
Gadag	119	47.53	4.17	48.24	17.5	55.5	9.5	54210	564
Gulburga	120	73.07	0.82	26.06	14	28.6	3.3	51085	244
Hassan	115.3	62.13	4	33.31	20.7	134.2	9.6	60892	843
Haveri	128.7	53.41	3.43	43	20.4	91.2	11.6	44873	620
Kodagu	101.1	30.33	3.77	65.9	2.2	241.6	13.4	35178	3881
Kolar	109.6	50.7	19.15	19.68	18.7	87.9	10.9	39340	302
Koppal	119.8	64.68	0.91	34.4	27.2	156.7	6.9	39509	389
Mandya	119.6	70.82	2.53	25.84	47	209.5	17	40912	576
Mysore	123	63.88	1.08	34.95	30.5	119.4	5.1	42106	489
Raichur	121.1	63.79	0.31	35.88	23.6	164.4	5.6	50608	476
Ramanagara	109.2	65.79	5.75	26.73	20.1	50.1	4.1	79035	170
Shimoga	116.2	71.57	3.26	24.37	60.3	193.2	15	77100	615
Tumkur	107.1	47.15	1.97	48.1	18.3	61.8	9.7	48780	266
Udipi	132.3	61.37	18.91	19.68	34.2	45.4	0.7	53507	299
Uttara Kannada	115.5	73.26	4.24	21.25	22.6	67.5	5	58451	419
State	117.4	59.62	3.35	36.46	23.8	99.5	8.8	48212	486

Source: Computed from the data available in HPC FRRI (2002)

Appendix Table 2: District wise Indicators on Industry, Trade and Finance during 2001

	I1	I2	I3	I4	I5
Districts	Number of Industrial Units per lakh population	% of Industrial workers to total main workers	Bank advances per lakh population in rupees	Number of bank branches per lakh population	No. of enterprises per lakh population
Bagalkote	273	11.91	3465	7.26	999
Bangalore Rural	1041	11.71	1676	5.76	1260
Bangalore Urban	616	31.4	1195	11.33	1777
Belgaum	579	9.62	3665	7.75	1633
Bellary	492	5.63	4078	7.75	1535
Bidar	366	4.4	4199	6.13	1077
Bijapur	238	4.07	2999	6.86	877
Chamrajanagar	633	7.12	1999	5.91	932
Chikkaballapur	428	5.71	812	7.9	1154
Chikmagalur	401	3.95	9244	11.5	1337
Chitradurga	299	5.61	2953	7.61	1657
D.Kannada	573	35.7	9851	15.98	1353
Davanagere	399	8.27	3338	6.98	1587
Dharwad	643	11.87	5716	11.16	1747
Gadag	481	8.8	4000	8.33	1657
Gulburga	305	4.83	1160	5.44	1294
Hassan	361	3.88	4293	9.18	1512
Haveri	444	6.04	3090	6.61	1590
Kodagu	510	3.95	12613	20.17	1793
Kolar	360	7.73	1008	6.57	1291
Koppal	260	4.92	3080	6.03	1509
Mandya	285	4.49	3195	7.27	1469
Mysore	671	9.98	6282	8.95	1195
Raichur	284	2.49	2482	5.52	1233
Ramanagara	572	10.32	1514	5.65	1083
Shimoga	608	8.21	5270	9.33	1519
Tumkur	597	6.84	1802	7.33	1215
Udipi	561	17.89	7934	18.3	1339
Uttara Kannada	415	7.72	2103	12.27	1697
State	482	10.71	3527	8.74	1428

Source: Computed from the data available in HPC FRRI (2002)

Appendix Table 3: District wise Indicators on Economic Infrastructure during 2001

	E1	E2	E3	E4	E5	E6	E7	E8	E9
Districts	No. of Post Offices per lakh population	No. of telephones per lakh population	Road leangth in Kilometers per 100 wquares kilometers	Proportion of villages having acess to all weather roads	Railway line in kms. Per 1000 sq.kms.	No. of motor vehicles per lakh population	Co-op societies per lakh population	Proportion of electrified villages including hamlets	Regulated Markets and Sub-Markets / lakh population
Bagalkote	21	2272	349	80	11.68	3205	21	98.78	0.35
Bangalore Rural	17	3098	429	31	29.16	4844	8	96.81	0.15
Bangalore Urban	6	11943	380	51	107.44	21628	7	75.6	0.04
Belgaum	17	3036	620	76	16.34	5628	32	98.74	0.28
Bellary	19	2612	395	72	36.82	4849	9	88.52	0.33
Bidar	20	1913	263	92	14.47	2618	15	83.39	0.36
Bijapur	23	2424	195	73	12.33	2317	20	81.31	0.2
Chamrajanagar	21	1686	278	71	3.17	2247	10	75.2	0.33
Chikkaballapur	17	2653	484	42	16.92	2575	9	94.86	0.3
Chikmagalur	27	5002	583	46	12.58	5332	13	43.86	0.58
Chitradurga	20	2247	329	68	19.97	2935	12	81.47	0.3
D.Kannada	25	7899	387	75	28.93	7955	9	14.22	0.27
Davanagere	19	3032	500	70	7.95	6019	15	89.99	0.3
Dharwad	13	5283	531	91	35.42	8351	18	97.69	0.35
Gadag	18	2366	484	92	19.54	3734	24	96.75	0.6
Gulburga	20	1952	465	56	13.91	2615	10	73.79	0.26
Hassan	24	4046	814	54	29.36	3960	12	81.41	0.4
Haveri	18	1922	729	97	16.3	2658	21	94.88	0.46
Kodagu	41	7256	250	79	0	8336	16	46.03	0.58
Kolar	16	3491	387	61	31.62	4486	7	97.64	0.38
Koppal	18	1759	216	68	9.89	2231	9	90.83	0.39
Mandya	21	2355	1196	67	16.63	3006	14	91.62	0.25
Mysore	16	4680	739	70	16.11	9266	11	83.56	0.28
Raichur	18	1845	192	57	6.08	2470	8	82.44	0.28
Ramanagara	17	2057	294	48	10.95	2103	11	87.18	0.22
Shimoga	22	4796	567	65	14.86	7384	14	44.14	0.29
Tumkur	22	2637	873	38	9.15	4420	12	85.74	0.43
Udipi	31	7711	179	83	29.65	5462	8	14.12	0.38
Uttara Kannada	37	5594	714	43	17.51	5376	18	40.85	0.68
State	19	4430	698	60	17.47	6742	14	66.56	0.3

Source: Computed from the data available in HPC FRRI (2002)

Appendix Table 4: District wise Indicators on Social Infrastructure during 2001

	S1	S2	S3	S4	S5	S6	S7
Districts	No. of Doctors per 10,000 population	No. of beds per 10,000 population	Literacy Rate	No. of pupil per teacher	% of children out of school	No. of students enrolled in Govt. And aided first grade degree colleges per lakh population	% of habitations having drinking water facility of 40 or more LPCD, 2001
Bagalkote	3.33	4.63	57.5	39.91	13.38	663.47	47.31
Bangalore Rural	1.87	5.58	65.8	27.53	4.15	334.84	74.41
Bangalore Urban	2.76	5.98	79.88	33.55	3.35	771.34	56.78
Belgaum	1.32	4.41	62.33	38.97	8.76	509.94	32.3
Bellary	1.65	6.34	57.04	41.37	16.71	588.68	46.88
Bidar	1.5	5.28	61.69	42.01	12.41	499.57	20.91
Bijapur	2.46	5.58	56.6	37.58	16.84	492.38	41.72
Chamrajanagar	2.68	6.45	50.87	35.15	8.75	202.08	73.1
Chikkaballapur	2.9	8.76	74.5	23.53	5.52	677.25	46.86
Chikmagalur	3.2	8.1	68.04	33.47	9.83	659.14	56.46
Chitradurga	2.53	7.6	63.65	32.81	8.12	523.81	66.56
D.Kannada	5.62	6.58	81.59	37.49	1.95	1086.79	51.36
Davanagere	2.43	7.85	66.01	34.54	7.73	358.67	61.13
Dharwad	4.99	7.8	67.81	40.74	9.15	648.76	38.99
Gadag	2.63	5.14	64.98	37.62	10.68	585.63	70.15
Gulburga	1.8	6.06	48.18	42.59	24.33	241.8	41.88
Hassan	2.58	9.85	67.66	25.3	5.01	462.23	58.68
Haveri	3.45	4.79	67.76	36.38	8.61	423.93	67.22
Kodagu	3.12	24.65	78.69	25.55	8.62	613.79	18.15
Kolar	2.06	7.26	61.23	30.58	10.13	527.08	74.83
Koppal	1.72	4.58	54.93	45.1	20.38	204.43	46.27
Mandya	1.63	6.98	60.83	33.04	4.35	500.22	68.49
Mysore	4.58	8.36	58.94	34.32	9.54	422.86	78.24
Raichur	1.48	4.11	48.29	44.75	27.48	189.5	54.8
Ramanagara	2.8	8.9	66.04	34.47	11.03	678.4	55.15
Shimoga	3.02	7.79	74.53	27.04	5.59	585.64	61.55
Tumkur	1.47	5.18	66.51	27.7	4.33	464.73	57.01
Udipi	4.7	11.39	79.82	37.05	1.15	1231.65	52.91
Uttara Kannada	2.34	9.24	75.54	25.19	6.91	973.55	49.75
State	3	8	67.04	34.47	10.03	669.44	56

Source: Computed from the data available in HPC FRRI (2002)

Appendix Table 5: District wise Indicators on Population during 2001

	P1	P2	P3	P4	P5
Districts	Number of females per 1000 male population	Ratio of Urban Population to Total Population	Ratio of SC and ST Population to Total Population	No. of non - agricultural workers to total workers	Agricultural labourers to total main workers
Bagalkote	977.1	29	17.26	35.96	49.96
Bangalore Rural	942.4	22.57	26.34	39	23.72
Bangalore Urban	905.8	88.08	15.82	89.62	4.6
Belgaum	958.9	24.06	13.67	37.92	44.75
Bellary	969.2	34.86	27.72	30.17	53.39
Bidar	948.1	22.94	29.01	29.98	49.61
Bijapur	948.1	21.87	20.12	28.32	38.27
Chamrajanagar	968.3	15.37	27.72	30.15	50.32
Chikkaballapur	963.8	19.4	32.73	29.57	18.79
Chikmagalur	983.6	19.52	21.86	45.34	20.44
Chitradurga	954.6	18.15	38.73	33.97	31.68
D.Kannada	1022.5	38.41	10.94	74.44	21.37
Davanagere	951	30.3	29.37	34.24	23.49
Dharwad	947.7	54.98	10.77	46.14	30.36
Gadag	968.3	35.18	16.23	34.48	42.35
Gulburga	963.6	27.13	27.79	30.09	47.97
Hassan	1004.7	17.7	18.47	39.34	11.73
Haveri	942.2	20.79	17.98	29.42	32.74
Kodagu	996	13.79	20.33	66.52	11.56
Kolar	974.5	29.16	32.55	36.95	23.79
Koppal	982.5	16.61	21.77	24.54	101.84
Mandya	985.5	16.02	14.51	32.09	25.97
Mysore	965	36.9	19.95	42.33	22.94
Raichur	980.2	25.42	27.34	24.43	155.31
Ramanagara	961.7	20.93	19.56	38.24	19.51
Shimoga	976.9	34.79	18.56	36.38	24.62
Tumkur	966.5	19.64	24.99	36.86	21.3
Udipi	1127.3	18.6	9.7	26.57	23.49
Uttara Kannada	969.8	28.67	8.37	52.74	8.82
State	963.6	33.98	20.64	41.67	28.92

Source: Computed from the data available in HPC FRRI (2002)