COMPUTATION OF INDICES

3.1 Introduction

The present chapter attempts to analyze 7 indices designed and developed in connection with the human development exercise undertaken for the district. The chapter aims at ranking the different taluks not only across the 7 indices, but also in respect of different dimensions identified under each of these indices.

3.2 Human Development Index [HDI]

Method of Estimating HDI

To compute HDI both at the district and taluk levels 11 indicators are used including the sub-indicators related to living standard, education and health. For purposes of deriving HDI at the district level, district level indicators, and for taluk, the respective indicators are used. **For the estimation of HDI, the following steps were followed:**

1. All computations are done at two stages. The 1st computation helps in understanding the relative positions of different taluks within the district. The 2nd set of computation relates to the position of the district. As the 1st step, a minimum and maximum values were set for each of the above 11 indicators to transform them into indices lying between zero and one. For this purpose, the observed minimum and maximum figures for each of the indicators are taken. Since the Geometric Mean has to be calculated, the minimum value would be taken as 10 per cent less than the observed minimum value in the taluk for positive indicator and 10 % more for the maximum value for the negative indicator.

2. To convert the indicators into an index, the formula are :

$$\textbf{Positive Indicator Index} = \frac{\text{Actual Value - Minimum Value}}{\text{Maximum Value - Minimum Value}}$$

$$\textbf{Negative Indicator Index} = \frac{\text{Maximum Value - Actual Value}}{\text{Maximum Value - Minimum Value}}$$

However, for per capita income, the actual per capita income, the minimum per capita income and maximum per capita income are to be converted into natural log values before converting into the index.

3. For computing sectoral indices (health, education and standard of living) geometric mean is used and the method of calculation is as below. Thus, there will be three indices; standard of living; health and education.

Sectoral Index = If I_1. I_2..... I_n are the n indices for a particular sector, then the

geometric mean for the sector = $(I_1 \times . I_2 \times ..... I_n)^{(1/n)}$.

4. To compute HDI, the three sectoral indices are aggregated using geometric mean with the following formula.

HDI= $(SI_l \times SI_h \times SI_e)^{(1/3)}$; where SI_l is the sectoral index for living standard, SI_h is the sectoral index for health and SI_e is the sectoral index for education.

The HDI has three dimensional indices viz. Living Standard, Health and Education. According to the analysis, of the 10 taluks, Tumakuru stands 1st with a score of 0.986 on the living standard indices. The next in rank is the Tiptur [0.609] and Kunigal taluk [0.456]. The Chikkanayakanahalli taluk has the least score i.e. 0.188 and thus, it gets the 10th rank. Thus, the different taluks in the district are found to have different rankings on the living standard index and the variations across the different taluks are quite significant.

Table No.3.1: Details of HDI in Tumakuru District

Sl. No.	Taluk	Living Standard		Health		Education		HDI	Rank within the district
		Score	Rank	Score	Rank	Score	Rank		
1	C.N.Halli	0.188	10	0.326	9	0.490	3	0.310	9
2	Gubbi	0.289	6	0.432	8	0.477	4	0.390	5
3	Koratagere	0.242	8	0.473	5	0.341	8	0.339	7
4	Kunigal	0.456	3	0.946	1	0.419	6	0.565	2
5	Madhugiri	0.256	7	0.212	10	0.189	10	0.217	10
6	Pavagada	0.202	9	0.701	3	0.396	7	0.382	6
7	Sira	0.328	5	0.457	6	0.511	2	0.425	4
8	Tiptur	0.609	2	0.503	4	0.463	5	0.522	3
9	Tumakuru	0.986	1	0.752	2	1.000	1	0.905	1
10	Turuvekere	0.351	4	0.437	7	0.214	9	0.320	8

On the health index, Kunigal taluk performs better than other taluks most importantly Tumakuru taluk. The next in rank is Tumakuru taluk and the score is 0.752. The indices value for Tiptur taluk is 0.503 and gets 4th rank. Madhugiri taluk has the score of 0.212 and stands last in the rank.

The educational index for many of the taluks is well below the half way mark. Thus, Tumakuru taluk gets a score of 1 and thus, the 1st rank in respect of these indices. Sira taluk stands 2nd with a score of 0.511. Madhugiri taluk gets the last rank and the value is 0.189.Thus, on all the three dimensions there are significant variations across the taluks.

The HDI value for the taluks is found to vary from 0.217 to 0.905. While Madhugiri taluk gets the least score, the maximum value is obtained by Tumakuru taluk. The score for Tiptur taluk is 0.522 and secures the third rank in HDI. The rank for Pavgada taluk is 6th with a score of 0.382. The performance of Turuvekere taluk is not very impressive and thus gets a value of 0.320 and consequently the eighth rank among the taluks in the district.

The aggregate HDI values reveal the following:

1. Of the three dimensions, there is relatively poor progress in terms of health followed by the living standard and education in the Tumakuru taluk. Even in the event of attainment of a score of almost 1and 1 in living standard and education, the total aggregate value is around 0.905. Thus, the best improvements can be seen only when there is improvement in health dimension in terms of decline in Child Mortality Rates and the Maternal Mortality Rates are decreased.

2. On the other hand, Madhugiri taluk, which has the least HDI value would require vast strides to be made in all the three spheres viz., living standard, education and the health. While the indicators such as the access to modern cooking fuel, electricity, the type of house etc., may not have a direct bearing on the health of the mother and the child, it may have an indirect bearing towards bringing down the mortality rates. The higher growth rates of population in the taluk might serve as a great impediment in bringing down the mortality rates.

3. The relatively higher rates of maternal mortality and poor progress in education have brought down Tiptur taluk in its growth on the human development index. This is definitely a result of the large concentration of the urban population in the taluk and perhaps a result of their poor economic status and more importantly, the increased preference of the people in the district to avail the facilities in the district hospital. Thus, the poor HDI of the Tiptur taluk is not necessarily a true reflection of its status, but a reflection of the poor status in the other taluks.

3.3 Gender Inequality Index [GII]

The GII attempts at analyzing the position of the women as compared to men in different public and private domains and at the household level and in terms of reproductive health. The ranks assigned based on the values for the different indicators is negatively related, i.e. the highest score gets the least rank and vice-versa.

1. Aggregating across dimensions within each Gender Group using Geometric Mean

For Females

$$G_F = \sqrt[3]{\left[\left(\frac{1}{MMR} \right) x\ D\ x\ ANE \right]^{1/3} * [R_F \times CHLD_F \times LIT_F)^{1/3} * [WPR_F \times NAG_F \times WAGE_F]^{1/3}}$$

For Males

$$G_M = \sqrt[3]{1 * [R_M \times CHLD_M \times LIT_M)^{1/3} * [WPR_M \times NAG_M \times WAGE_M]^{1/3}}$$

2. Aggregating across Gender Group using a Harmonic Mean.

$$HARM(G_F, G_M) = \left[\frac{(G_F)^{-1} + (G_M)^{-1}}{2} \right]^{-1}$$

3. Calculate the Geometric Mean of the Arithmetic Means of the each Indicator

$$G_{\bar{F}\bar{M}} = \sqrt[3]{\overline{health}, \overline{empowerment}. \overline{LFPR}}$$

Where

$$\overline{health} = \left[\frac{\left[\left(\frac{1}{MMR} \right) x\ D\ x\ ANE \right]^{1/3} + 1}{2} \right]$$

$$\overline{empowerment} = \frac{[R_F\ x\ CHLD_F\ x\ LIT_F]^{1/3} + [R_M\ x\ CHLD_M\ x\ LIT_M]^{1/3}}{2}$$

$$\overline{LFPR} = \frac{[WPR_F\ x\ NAG_F\ x\ WAGE_F]^{1/3} + [WPR_M\ x\ NAG_M\ x\ WAGE_M]^{1/3}}{2}$$

4. Calculating the GII by comparing th equally distributed Gender index to the reference standard The GII value ranges from Zero (no gender inequality across dimensions) to one (total inequality across dimensions)

$$GII = 1 - \frac{HARM\ (G_F, G_M)}{G_{\bar{F}, \bar{M}}}$$

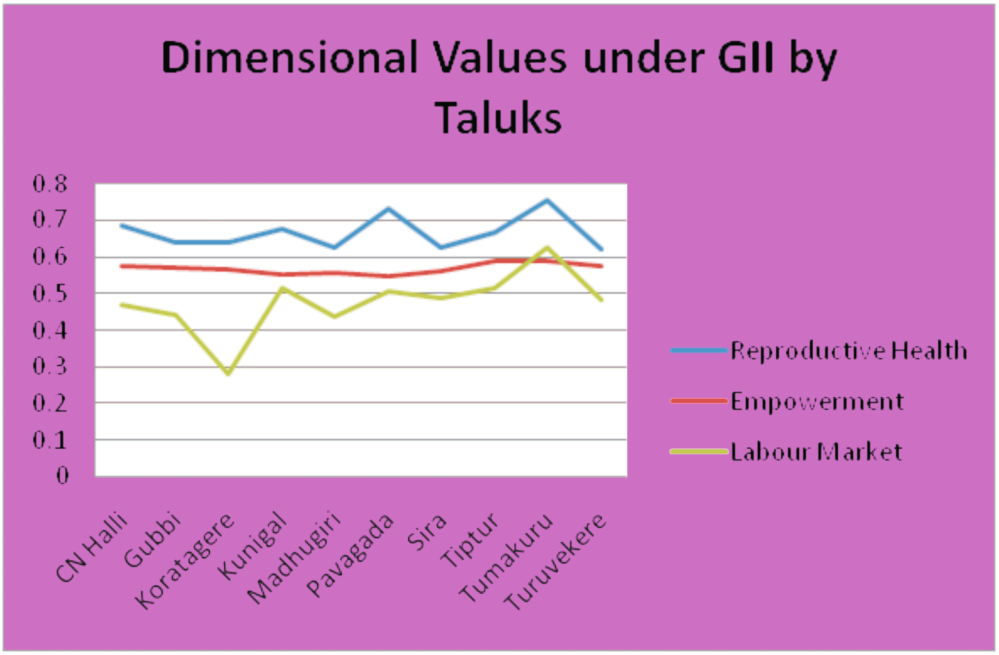
Table No.3.2: Details of GII in Tumakuru District

Sl. No	Taluk	Reproductive Health		Empowerment		Labour Market		GII	Rank within the District
		Score	Rank	Score	Rank	Score	Rank		
1	C.N.Halli	0.688	8	0.576	7	0.470	4	0.056	3
2	Gubbi	0.637	4	0.571	6	0.440	3	0.088	6
3	Koratagere	0.641	5	0.567	5	0.279	1	0.103	7
4	Kunigal	0.677	7	0.555	2	0.518	9	0.067	5
5	Madhugiri	0.624	2	0.558	3	0.437	2	0.104	8
6	Pavagada	0.734	9	0.549	1	0.509	7	0.051	2
7	Sira	0.625	3	0.563	4	0.487	6	0.107	9
8	Tiptur	0.669	6	0.589	9	0.516	8	0.065	4
9	Tumakuru	0.757	10	0.590	10	0.628	10	0.047	1
10	Turuvekere	0.620	1	0.578	8	0.485	5	0.124	10

3.3.1 Reproductive Health: In terms of the reproductive health, the least score is 0.620 and the highest score is 0.757. Thus, Tumakuru and Turuvekere taluks get 10th and 1st rank respectively. Thus, the women in Turuvekere are facing lesser inequalities than those in Tumakuru taluk. The 2nd least securing taluk is Madhuguri [0.624]. The inequalities faced by women are not found to be related to the economic development of the taluk.

3.3.2 Empowerment: The women in the district are not found to be quite different as regards their empowerment is concerned. This may be a better representation in the various public offices, etc. However, notwithstanding this, the women in the Pavgada taluk get a least score of 0.549 and ranks 1st. The empowerment value for Tumakuru taluk is 0.590 and thus the 10th rank. Therefore, the region with higher exposure, urban concentration and educational background is found to be not supporting the empowerment of women as much as the other taluks which are relatively different.

Fig.3.1: Dimensional Values under GII Across Taluks



3.3.3 Labour Market: The women in Tumakuru district is found to be confronting wide varied situations in terms of the opportunities, wage differentials and the nature of the occupations pursued by them. Thus, Koratagere taluk gets an indices value of 0.279 and as a result the 1st rank. Tumakuru taluk, on the contrary, gets a value of 0.628 stands the 10th rank. Thus, the relatively developed taluk such as Tumakuru seems to be withholding or not promoting the women's interests in the economic domain. On the other hand, in the relatively less developed taluks the scenario is found to be quite different. It may be interesting to understand the factors promoting or preventing the advancement of the women in the different economic domains.

The GII value, which is an aggregate of reproductive health, empowerment and the labour market dimensions, is the least for Tumakuru taluk. On the contrary, for Turuvekere taluk it is 0.124 and stands 10th in the district. It is important to note that the relatively poorer values speak of the relatively better status of the women in the district and thus, there is need to neutralize those factors which are promoting the inequality in the district.

3.4 Child Development Index (CDI)

Computation of Child Development Index

The indicators have been broadly categorised under three parameters that influence the HDI. All the above indicators are negative in nature except for the education dimension. The index values for each of the indicators are calculated by using the following formula

$$\textbf{Index Value = For Negative indicator =} \frac{\text{Maximum Value - Actual Value}}{\text{Maximum Value - Minimum Value}}$$

$$\textbf{Index Value = For Positive indicator =} \frac{\text{Actual Value - Minimum Value}}{\text{Maximum Value - Minimum Value}}$$

The index values for each of the indicators would range between 0 and 1 and the C D I is the average of index values of the three indicators health, nutrition and education with the highest value indicating better child development. The composite child index is the geometric mean average of the index values of all sectoral indicators. The three dimensions under the Child Development Index are the Health, Nutrition and Education. The average of these three indices decides the status of the taluk in the district.

Table No.3.3: Details of CDI in Tumakuru District

Sl. No	Taluk	Health		Nutrition		Education		CDI	Rank within the District
		Score	Rank	Score	Rank	Score	Rank		
1	C.N.Halli	0.000	9	0.498	8	0.352	7	0.337	10
2	Gubbi	0.658	2	0.616	4	0.204	9	0.523	5
3	Koratagere	0.342	7	0.704	3	0.934	2	0.671	2
4	Kunigal	1.000	1	0.514	5	0.876	3	0.726	1
5	Madhugiri	0.368	6	0.271	10	1.000	1	0.477	8
6	Pavagada	0.447	5	0.500	7	0.279	8	0.432	9
7	Sira	0.526	3	0.502	6	0.461	6	0.498	7
8	Tiptur	0.316	8	0.748	2	0.532	5	0.586	3
9	Tumakuru	0.500	4	0.761	1	0.000	10	0.505	6
10	Turuvekere	1.000	1	0.361	9	0.568	4	0.572	4

3.4.1 Health: The child under 5 years age mortality rate is the negative indicator, i.e. the taluk with the least rate will get the highest value. Thus, Kunigal and Turuvekere taluks that have the least child mortality rate below 5 year age has the max. value of 1 and thus both the taluks get the 1st rank under this dimension. Chikkanayakanahalli taluk has the zero score and thus ranks 9th. Tumakuru taluk with 0.500 value gets the fourth rank. Tiptur taluk with a score of 0.316 gets the eight rank in health under CDI.

3.4.2 Nutrition: The child's nutritional status is measured in terms of percentage of malnourished children and the percentage of low birth weighing babies. Tumakuru taluk with a score of 0.761 gets the 1st rank under the nutritional dimension for the children. The 2nd rank is for Tiptur taluk with an indices value of 0.748. Under this dimension Madhugiri has a value of 0.271 and thus, the last rank in the district. Threfore, the 1st taluk and the tenth taluk are at two extremes and thus, speak volumes of the nature of development. It is the

relative poverty coupled with poor purchasing power and illiteracy which deprives the children of their due share.

3.4.3 Education: This is being assessed through the no. of drop-out children mainstreamed at the primary and 2ndary stages. Under this, the Madhugiri taluk gets the 1st rank with a value of 1. This may be a result of the high incidence of school drop-outs in the taluk. Koratagere taluk has an indices value of 0.934 and thus the 2nd rank. Tumakuru taluk gets the 10th rank and the value is 0. Thus, the taluks with higher incidence of school drop-outs are reported to be getting better values.

As a whole, Kunigal taluk gets the highest indices value of 0.726 and thus the 1st rank. Therefore, it may be the progress made in terms of health and education which has given the taluk a better status. This is followed by the taluks of Koratagere [0.671] and Tiptur [0.586]. CN Halli taluk gets the last rank and the indices value is only 0.337. Tumakuru taluk gets the 6th rank among the 10 taluks in the district. Thus, the developments in the area of children are so varied and different.

3.5 Food Security Index (FSI)

Computation of Food Security Index

The indicators have been broadly categorised under three parameters such as Availability, Accessibility and Absorption. The data collected for the above indicators have been used for calculating the index values. This would help in making the values unit-less and would allow summation of the index values of all the indicators. The index values have been calculated for each of the indicators after identifying whether the indicators are positive or negative. This is done to make the index values unidirectional.

The index value in the case of a positive indicator has been calculated using the formula (with 10 percent less for minimum value)

- **Positive Indicator Index =** $\dfrac{\text{Actual Value - Minimum Value}}{\text{Maximum Value - Minimum Value}}$

- The index value in the case of a negative indicator has been calculated by using the formula (with 10% addition to the maximum value)

- **Negative Indicator Index =** $\dfrac{\text{Maximum Value - Actual Value}}{\text{Maximum Value - Minimum Value}}$

The index values for each of the indicators would range between 0 and 1 - 0

The consolidated index for each of the parameters will be the average index value of all the indicators

The composite index is the average of the indicators of all the three parameters availability, accessibility and absorption

This exercise has been carried out for each of the taluks with the same method and the ranking is assigned based on the food security index to estimate the availability and economic access to food security at household level.

The food security index is further classified into three dimensions viz., availability, accessibility and absorption. The ranks together with the values are presented in the following table:

Table No.3.4: Details of FSI in Tumakuru District

Sl. No.	Taluk	Availability		Accessibility		Absorption		FSI	Rank within the District
		Score	Rank	Score	Rank	Score	Rank		
1	C.N.Halli	0.517	3	0.370	7	0.461	7	0.449	6
2	Gubbi	0.472	5	0.320	8	0.673	3	0.488	5
3	Koratagere	0.378	8	0.185	10	0.535	5	0.366	9
4	Kunigal	0.480	4	0.521	2	0.508	6	0.503	3
5	Madhugiri	0.401	7	0.215	9	0.359	9	0.325	10
6	Pavagada	0.575	1	0.400	5	0.360	8	0.445	7
7	Sira	0.291	9	0.390	6	0.441	10	0.374	8
8	Tiptur	0.414	6	0.432	3	0.791	1	0.545	1
9	Tumakuru	0.253	10	0.621	1	0.729	2	0.534	2
10	Turuvekere	0.520	2	0.406	4	0.573	4	0.500	4

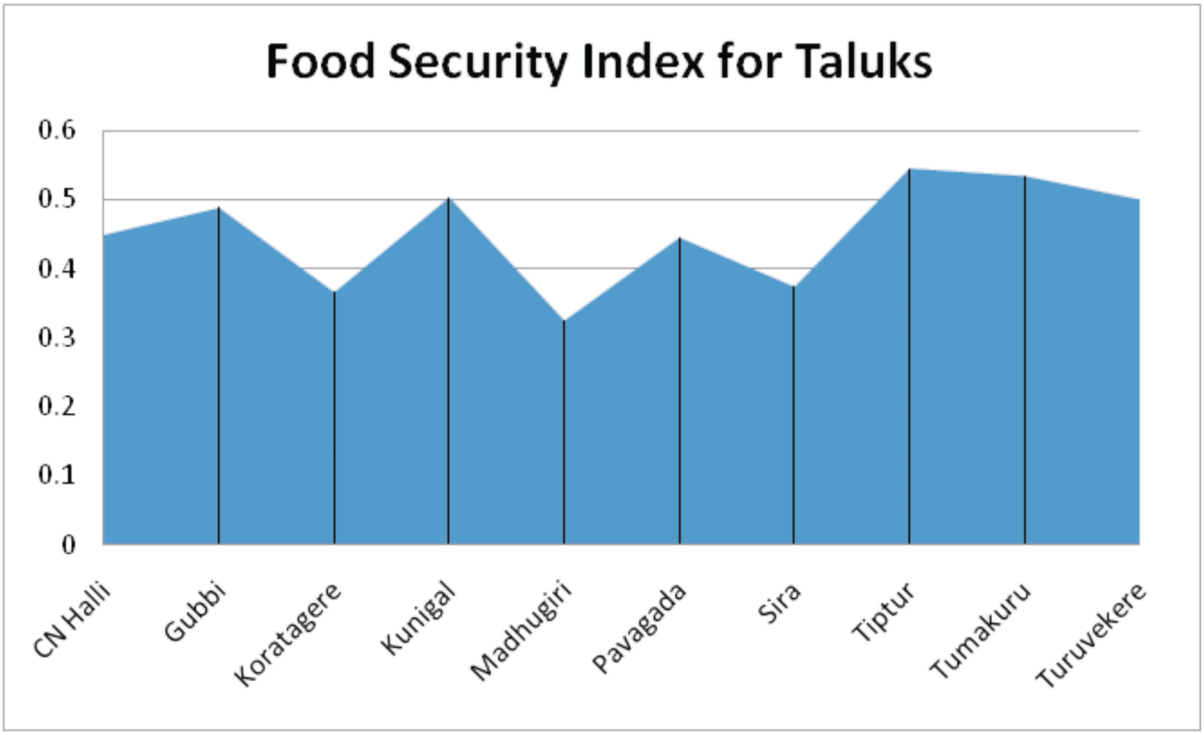
As regards the availability, Pavgada taluk stands 1st with a mean score value of 0.575. Tumakuru taluk which stands last gets a mean score value of 0.253. Tiptur taluk gets a score value of 0.414 and stands 6th among the taluks in the district. Madhugiri taluk gets the 7th rank in terms of availability.

On the accessibility side, Tumakuru taluk gets the 1st rank followed by Kunigal taluk [2nd rank], Tiptur taluk [3rd rank] and so on. Koratagere taluk stands last with a mean value of 0.185. Thus, in terms of percentage of BPL families, average size of holdings, percentage of non-agricultural workers, etc. Tumakuru taluk is found to be different from the other taluks and thus, has got a better rank.

On the absorption side, the mean values are higher than those for the other two. Perhaps this could be a result of better implementation of the governmental programmes relating to health, nutrition and literacy. The mean value for Tiptur taluk relating to absorption is 0.791 and thus, gets the 1st rank. Sira taluk with a mean value of 0.441 gets the last rank. The variation in the mean values also speaks of the varied performance of the schemes meant for the poorer sections of the society.

The top three taluks in the district under the Food Security Index are Tiptur [0.545], Tumakuru [0.534] and Kunigal [0.503] taluks. Madhugiri taluk with only a mean value of 0.325 gets the last rank. The FSI explains the opportunities and the consequences of economic development.

Fig.3.2: Food Security Index



3.6 Urban Development Index (UDI)

The district has 10 urban settlements and they vary in terms of their administrative status.

Computation of Urban Development Index

- The indicators have been broadly categorised under major parameters that play an important role urban development and also influence the HDI.
- The data collected for the above indicators has been used for calculating the index values. This would help in making the values unit-less and would allow summation of the index values of all the indicators.
- The index values have been calculated after identifying whether the indicators are positive or negative. This is done to make the index values unidirectional.
- The index value (in the case of a positive indicator) has been calculated using the formula

$$\textbf{Index Value} = \frac{\text{Actual Value - Minimum Value}}{\text{Maximum Value - Minimum Value}}$$

- The index value (in the case of a negative indicator) has been calculated by using the formula

$$\textbf{Index Value} = \frac{\text{Maximum Value - Actual Value}}{\text{Maximum Value - Minimum Value}}$$

- The index values for each of the indicators would range between 0 and 1 - 0 indicating the lowest ranking for the urban area and 1 indicating highest ranking of the urban area
- The composite Urban Development Index is the average of the index values of all indicators and this has been used in assigning the ranks for the urban areas within the district.

The UDI values for the six urban centres are as below. These have been arrived after taking into account the performance of these indicators reflected by the geometric mean of these values for each of the urban centre. The scores and the rankings are placed in the Annexure-4.

3.6.1 Percentage of Urban Population: Tumakuru city with the largest population in the district gets a mean value of 1 and the 1st rank among all the urban local bodies. Gubbi town has the least population and thus gets a mean value of 0 and the 10th rank among all the urban local bodies. The mean values are indicative of smaller size of the urban population in relation to the total population of the taluks.

3.6.2 Households without Own Houses: The mean values on the percentage of households without own houses in the towns/cities are found to vary. The mean value for Turuvekere town is 1 and hence, it gets 1st rank. Tumakuru city ranks the 8th with a mean value of 0.138. The values are 0 for Koratagere town and hence, the 10th rank.

3.6.3 Percentage of Slum Population: Both in terms of the no. of slum areas and the slum population living, the towns and cities are found to be different. Thus, the mean values for the same are different. The Koratagere town gets a mean value of 0.995 and hence, the 1st rank. This is because of the no. of people living in the slums in the town. Tumakuru, Turuvekere and Tiptur towns get 2nd, 3rd and 4th rank respectively.

3.6.4 Water Supply: In respect of the water supply, of the 10 towns or cities, Gubbi gets a mean value of 1 and thus the 1st rank. CN Halli town gets the last rank.

3.6.5 Sewerage / Drainage: Tumakuru city with a value of 1 gets the 1st rank followed by Kunigal with the 2nd rank. The last in the list is Tiptur.

3.6.6 Hospital Beds: In terms of the hospital beds the Koratagere and Sira stands 1st and last respectively. The values are 1 and 0 respectively.

3.6.7 Own Resource Mobilization: This is a very important dimension in the urban development as the quality of services provided to the communities also depends on the ability of the ULB to mobilize its own resources. In respect of this, Sira, which is a CMC gets a score of 1 and consequently the 1st rank. Madhugiri town gets the 2nd rank and the Gubbi town the 3rd rank. Koratagere town gets the last rank. The performance of the different ULB is found to vary greatly.

3.6.8 Per Capita Expenditure on Development Works: Under the expenditure on development works, Sira is topping the table with a mean value of 1. Sira town gets the 1st rank for the same. This is followed by Tumakuru with a value of 0.223, Turuvekere with a value of 0.187 and Gubbi TP with 0.154 value. Thus, these towns get 2nd, 3rd and 4th rank respectively. The larger municipalities have not found to have invested higher funds in the developmental works.

3.6.9 Road Length Per Sq. Km. of Geographical Area: The road length is considered an important indicator of urban development as it provides for the easier movement for the people and the services within the urban area. Tumakuru city gets a mean value of 1 as far as the road length is concerned. Thus, it ranks 1st among the 10 urban local bodies in the district. Tiptur city ranks 2nd with a value of 0.978. The road length is found to depend on a no. of factors including the nature of the landscape, the nature and type of planning of the settlement and the extent of roads developed in the town.

3.6.10 Crime Rate and Road Accidents: Tumakuru stands 1st and Koratagere stands last in respect of Crime rate and Pavgada stands 1st and Gubbi gets the last rank in respect of Road Accidents.

Urban Development Index: The Urban Development Index value is presented in the following table. Tumakuru city which is recently elevated to the status of a Corporation gets a mean value of 0.665 and stands 1st. The two other city municipal councils, i.e. Sira and Tiptur city with mean values of 0.556 and 0.488 stand 3rd and 6th respectively.

Table No.3.5: Details of UDI in Tumakuru District

Sl.No.	City / Town	Status	UDI	Rank within the District
1	C.N. Halli	TMC	0.386	9
2	Gubbi	TP	0.494	5
3	Koratagere	TMC	0.450	7
4	Kunigal	TMC	0.405	8
5	Madhugiri	TMC	0.505	4
6	Pavagada	TMC	0.362	10
7	Sira	CMC	0.556	3
8	Tiptur	CMC	0.488	6
9	Tumakuru	Mun. Corporation	0.665	1
10	Turuvekere	TP	0.577	2

Notwithstanding these variations, these towns have inherent limitations in human development. While they have been able to attract the poor and the deprived that they are not able to improve their lot through the provision of improved services in terms of health, education and so on. While they seem to have access, they are not able to avail the services.

3.7 Composite Taluk Development Index (CTDI)

All the 68 indicators have been broadly categorized into three broad dimensions, viz. Standard of Living Index, Health Index and Educational Index. These three dimensions are different from the ones identified under HDI.

Method of computation

The 68 indicators are broadly categorized under the Human Development parameters namely, availability, accessibility and absorption. The indicator values are unit- less and the index values are calculated after identifying the indicators as positive or negative to make the index values unidirectional. The index values are maximum and minimum fixed for each indicator.

- The formula for calculating Positive value is-

$$= \frac{\text{Actual Value - Minimum Value}}{\text{Maximum Value - Minimum Value}}$$

- The formula for Negative value is –

$$= \frac{\text{Maximum Value - Actual Value}}{\text{Maximum Value - Minimum Value}}$$

- The index value for each of the indicators would range between 0 and 1.

- The consolidated index will be the geometric mean average of all index values of indicators.

Table No.3.6: Details of CTDI Index

Sl. No.	Taluk	Standard of Living Index		Health Index		Education Index		CTDI	Rank within the District
		Score	Rank	Score	Rank	Score	Rank		
1	C.N. Halli	0.505	4	0.437	9	0.428	8	0.457	8
2	Gubbi	0.523	3	0.456	6	0.488	7	0.489	6
3	Koratagere	0.443	8	0.651	1	0.533	5	0.542	4
4	Kunigal	0.648	1	0.542	5	0.540	4	0.577	2
5	Madhugiri	0.459	7	0.447	8	0.496	6	0.467	7
6	Pavagada	0.425	10	0.371	10	0.324	10	0.374	10
7	Sira	0.435	9	0.450	7	0.333	9	0.406	9
8	Tiptur	0.501	5	0.650	2	0.570	2	0.574	3
9	Tumakuru	0.472	6	0.569	4	0.553	3	0.531	5
10	Turuvekere	0.583	2	0.608	3	0.578	1	0.590	1

3.7.1 Standard of Living Index: Kunigal taluk which ranks 1st gets a dimensional value of 0.648. Turuvekere [0.583] and Gubbi [0.523] taluk rank 2nd and 3rd respectively. Tumakuru taluk stands 6th among the taluks in the district. The ranking very well fits in with the general understanding that while Tumakuru, Tiptur and Turuvekere taluks are the relatively developed taluks, Pavgada and the Koratagere taluks are not so.

3.7.2 Health Index: Under this dimensional value, the Pavgada taluk gets the 10th rank, while Koratagere taluk gets the 1st rank. In Pavgada taluk, there is better provision of the health infrastructure and the health services, decrease in the percentage of malnourished children, etc. However, there is poor provision of facilities such as the toilet and the drainage facilities. Thus, it may be the health infrastructure and services together with other factors which is contributing to its present position in the health index. Tumakuru and the Tiptur taluks get the 3rd and 2nd positions respectively.

3.7.3 Education Index: The education index as in the case of two other indices is a comprehensive index capturing for all critical issues relating to education. The indicators included cover both the primary and the secondary education. Under this, Turuvekere taluk gets the 1st tank and Pavgada gets the last rank. The values for the two taluks are 0.578 and 0.324. It should be noted that there exists such a great variation between the two. Tumakuru taluk with a value of 0.553 gets the 3rd rank.

The overall CTDI ranking for the ten taluks again reiterates the socio-economic developments of the taluks. Thus, the Turuvekere with a score of 0.590 stands 1st followed by Kunigal taluk with a value of 0.577 and Tiptur taluk with 0.574. The performance of the Tumakuru taluk with a value of 0.531 is quite surprising.

3.8 Composite Dalit Development Index (CDDI)

Composit Dalit Development Index has the following dimensions:

1. Inclusion
2. Discrimination
3. Freedom
4. Standard of Living
5. Gender Dimension
6. Access to Basic Facilities

Method of Constructing CDDI

$$\textbf{Formula} = \frac{\text{Actual Value}}{\text{Maximum Value}}$$

Where,

Actual Value is Actual Attainment of Development

Maximum Value is Expected Attainment of Development

Interpretation of CDDI Value

Index Value of	0.8– 1.0	Very Good
IndexValue of	0.6– 0.79	Good
IndexValue of	0.4– 0.59	Average
IndexValue of	< 0.4	Below Average

The CDDI value for the district is 0.5 and thus is in the average category. This calls for efforts to improve the lot of the dalits in the district.

3.9 Concluding Remarks

The analysis across the taluks reval the varied developments of the different taluks / towns and cities in the district. the analysis also highlights the cross cutting issues relating to the human development. The taluks such as Turuvekere, Tumakuru and Kunigal is found to be ahead of the rest of the taluks on many aspects. The taluks of Madhugiri and Pavagada are relatively less developed.



Fig. 3.3 : Anganawadi & School children