
AN EVALUATION OF INCOME DIMENSIONS OF HDI IN TELANGANA DISTRICTS

DR. ANKASALA SAMBA SIVA RAO

Abstract: Human Development implies all round of the human beings which means the positive changes of education, health, social, economic political and in environmental aspects are covered in the concept of HDI. Since the 1990s every nation tries to improve their HDI in so many angles from their availability of means. At the global level the UNDP had taken the function of calculating the HDI by the adopted formula of Mahabub-Ul-Huq. In India the HDI has been calculated by the Center for Economic and Social Studies for the major 15 states for the study years of 1991 and 2001 at national level. But at the same time some of the states like Maharashtra, Andhra Pradesh, Assam, Tamil Nadu and Madhya Pradesh etc are taken an effort on the estimate the individual HDI of their sub divisions. In this context the present study will be carried out the HDI estimation of the new formed state of Telangana. The researcher be made an effort on the some objectives like density of population, urbanization, work participation in non agriculture sector and the per capita income etc are assumed as in income dimensions. These indicators are to be calculated for the years of 2001 and 2011 study points only. In this way there is possible to know, where the Telangana districts are stand in the income dimension. For this study the author may use secondary data with the help of statistical abstracts of Andhra Pradesh and the simple statistical tools to be used in the analysis of data.

Key Words: HDI, Density, Urbanization, Non-Agriculture Workers, Income Dimension

Introduction: Human Development implies all round well being and freedom of the people to make choices. Income alone is not Human Development even it helps to procure some of the basic requisites of material life. It is not a new invention in the science of Economics as early leaders of Political and Economic thought gave prominence to this concept. The idea that social arrangements should promote social good dates back to Aristotle (384 – 322 BC), Immanuel Kant (1724 – 1804 AD), Adam Smith “Father of Economics” (1723 – 1790 AD), Robert Malthus, Karl Marx and J.S. Mill also reflected the same feelings in their writings.

After the Second World War economists, with the availability of National Income accounts went on measuring economic performances with G.N.P. Increase in the G.N.P. was taken as economic growth. Per capita Income was taken as an indicator of well being and instrument to test standard of living.

Amartya Sen¹ explains the conceptual meanings of both Human Capital and physical capital. Human capital concentrates on skill knowledge and productivity it helps the individual living standards and increases the choices of human beings. Human capital enhances the human capabilities also as stated by Adam Smith in his Wealth of Nation, the author maintains the link between productive abilities and the ability to lead better lives is explained. K.N. Bhatt (2003)²: has stated that human development can taken as the expansion of human capabilities. Human development, as a process is to widen people choices and the level of well being they attain. Biswajith Guha (2003)³ has deviated from the established Human Development Indices. There is need of the new approach to calculate the economic and human

development. In his opinion a Nation cannot develop without adequate provision for public health education food clothing shelter and decent standard of living. Mahabub-Ul-Haq’s (1997)⁴ many important aspects of human development are neglected he had only taken 6 variables for the estimate the HDI. Nasir Ahmed Khan⁵ HDI has the Multi-dimensional and involving Political, Social, and Economic elements. He adopted UNDP methodology to measure inter-state variations in the human development in India by taking 1991 data of Urbanization is added as the fourth indicator for the Computations H.D.I. Aswanikumar Mishra and Biswa⁶ examine the economic performed and Social insecurity across the major states with emphasis on login states of country in 1993-94-2001. Sumanash Datta⁷ has taken (8) variables as indicators of Economic Development to examine the HDI in Assam for the 2001 as the study period. Dimension Index of development for each is district calculated by using a simple formula of UNDP. Amar Kumar Mohanty, Narayana Nayak and Banichatterjee⁸ examine Human Development in Orissa by taking districts as units of study. It is noted that Tribal districts lag behind in all dimensions of Human Development. Availability of quality infrastructure, both economic and social is a key factor for human development infrastructure in the form of health, Education, transportation, communication, electricity, irrigation and banking facilities is measured with composite index.

In this context the scholar makes an attempt the new income dimension of Researcher Method (adopted as the own by the help of UNDP formula) participation of workers in non agriculture, extenuation of

urbanization and the density of population, the average of these three indicators together in the form of new income dimension. The main efforts of the researcher to comparison of UNDP income dimension of PCI and the new income dimension of RM. The income of the non agriculture workers to stable and the distribution is jejune. In general the average income of the urban people may higher than the average income of rural people. The density is the indirect development symbol, where the assured employment opportunities is more, the better living environment and even though the better marketing faculties are influenced the density, because the people are watching and moving towards the urban areas. Thus, the researcher has taken the three aspects in the form of income dimension.

Methodology: The income dimensions shell is worked out for all districts in the state of Telangana for 2001 and 2011 census years. Indicator wise district level indices are given as density of population (DP), urbanization (URB), work participation of non agriculture sector (NAW) and the per capita income (PCI) etc are assumed as in income dimensions. The values are calculated by the help of UNDP formula of Mahbub-Ul-Haq. The income dimension to be worked out and added the all values then divided the number of indicators and finally the researcher identified the Income Dimension Value. In this way there is possible to know, where the Telangana districts are stand in the income dimension. Telangana districts are divided into Metropolis Region (MR) by taking Hyderabad and Ranga Reddy and the remaining eight districts as Rest of Telangana Region (RTR), due to eliminate the impact MR on RTR of Telangana. The present study purely based on the second source of data. The basic secondary data collected statistical abstracts of Andhra Pradesh and

complied by the researcher with the help of and the simple statistical tools.

Basic variables:

1. Standard of living – Per Capita Income PCI
2. Work participation – Non Agriculture sector NAW
3. Extent of urbanization URB
4. Density of population DP

The formula used by UNDP under the guidance of Mahbub- Ul- Haq shall be used for HDI calculation of a particular indicator. The formula is given bellow.

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

For the certain indicators instead of giving maximum and minimum values arbitrarily percentages shall be taken and such indicators shall be analyzed separately and adding them in the value of Income Dimension for 2001 and 2011 census years.

Most of the existing studies on Human Development are either at the National level or state level where as this research study takes the districts of Telangana for comparison to identify the disparities in Income Dimension Indices are computed for all the 10 districts.

Objectives of the Study:

1. To study the levels of per capita income of the districts in state of Telangana.
2. To examine the levels of urbanization at district wise.
3. To analyze the density of the population at district level.

To find out the work participation of non agriculture sector

To compute the overall income dimensions with the merging of urbanization, density, non agriculture workers. As the new income dimension of researcher.

Table – 1: Income Dimension Indicators Maximum and Minimum Values

Sl. No	Development Indicator	Maximum Value	Minimum Value	Dimension	Note
1	Non Agricultural Workers (NAW)	100	0	Income Dimension of Assumed	In the Researcher Method Dimensions are worked out with the NAW, DP and URB in all the years of study; 2001 and 2011
2	Density of Population (DP)	Highest of the District in the State	Lowest of the District in the State		
3	Urbanization (URB)	100	0		
4	Per Capita Income (PCI)	Highest Value of the District in the State	Lowest Value of the District in the State	Income Dimension of UNDP	The PCI as the Income Indicator of UNDP 2001 and 2011 years.

Having assigned the minimum and maximum values to the Income Dimension Indicators the data, district

wise, against the indicators in the form of attainment is taken in the following above table. Income Indices

of both Researcher's and UNDP Methods has applied for the four indicators such as PCI, NAW, DP and URB have been worked out for all districts and regions for 2001 and 2011 years of study. PCI, NAW, DP, and URB (Other Income Dimension).

Table 2: In the state of Telangana the total ten districts income dimension values of per capita income (PCI), non agriculture workers (NAW), density of the population (DP) and urbanization (URB) are reveals for the 2001. Among the four

indicators expect PCI, the remaining three are adopted as the income indicators by the researcher himself.

Hyderabad has the top in all the aspect of PCI is Rs.15743, NAW 98.34 percent, 19149 as the DP and the 100 percent URB. Merging of all the Income dimension values and worked out as OID, here Hyderabad at the top while the bottom is Mahabubnagar with 0.063 only.

**Table - 2: District- wise PCI & OID (Indicators) of UNDP in 2001
(Basic Figures and Indicator values of HDI formula)**

1	2	3	4	5	6	7	8	9	10	11	12
Sl. No	Name of the District	PCI	PCI HDV	% of NAW	NAW HDV	DP	DP Index	% of URB	URB Index	OID =6+8+10/3	OID + PCI= TIIV 4+11/2
1	Rangareddy	14948	0.722	59.52	0.595	477	0.017	54.00	0.540	0.384	0.633
2	Hyderabad	15743	0.808	98.34	0.983	19149	1.000	100.00	1.000	0.994	0.997
3	Nizamabad	10082	0.192	43.03	0.430	293	0.007	18.00	0.180	0.205	0.183
4	Medak	14366	0.658	32.29	0.323	275	0.006	14.00	0.140	0.156	0.476
5	Mahabubnagar	8996	0.074	26.82	0.268	191	0.002	11.00	0.110	0.126	0.063
6	Nalgonda	9301	0.107	32.41	0.324	229	0.004	13.00	0.130	0.152	0.098
7	Warangal	9598	0.140	31.93	0.319	252	0.005	19.00	0.190	0.171	0.130
8	Khammam	13653	0.581	27.90	0.279	161	0.000	20.00	0.200	0.156	0.423
9	Karimnagar	11426	0.338	41.34	0.413	296	0.007	19.00	0.190	0.203	0.281
10	Adilabad	10067	0.191	39.04	0.390	155	0.000	27.00	0.270	0.220	0.189
Total	Telangana	11818	0.381	43.26	0.433	270	0.006	30.00	0.300	0.246	0.332

Source: computed by the statistical abstract of Andhra Pradesh 2003

PCI of Ranga Reddy Rs.14948 (0.882) as the second highest after Hyderabad followed by Medak 14366 (0.796), Khammam 13653(0.690), Karimnagar 11426 (0.360), Nizamabad 10082 (0.161), Adilabad 10067 (0.159), Warangal 9598 (0.089), Nalgondam 9301 (0.045) and Mahaboobnagar is at the lowest with 8996 (0.0001) for 2001 respectively. The PCI, of IDV values are also in the same tendency. The overall average of the state PCI is 11818 and the value is worked as 0.381. The NAW has the same direction as per capita income. Hyderabad and Rangareddy districts are top two districts and the Mahaboobnagar and Khammam districts are bottom two district. These two districts majority of people depends on primary occupation here interesting to note that the Khammam has the third rank in per capita but it ninth rank in NAW. Because as we observed the district of Khammam is largest tribal population of state in those majority are illiterate even though in the primitive tribal are almost living in hill areas with the occupation of Podu and collect forest products. The remaining districts are almost the same trend as per PCI. The indicator values of NAW is as the same direction. Density of Population (DP) of the state is worked out as 270 for 2001. The Hyderabad,

Rangareddy and Nizamabad are first, second and third places with 19149 (1.00), 477 (0.017) and 293 (0.007) respectively. The Adilabad, Khammam and Mahabubnagar are the bottom three districts with 155 (0.0001), 161 (0.0001) and 191 (0.002) respectively.

The urbanization (URB) is also play an important role in economic development. It has also accepted by the many economists as the development indicator (Bishwajit Guha ,Huq, Amerthya sen etc) where the industries education electricity, water sources, natural resources and the all facilities are concentrate it is natural all the human resources have to migrate that plane like DP indicator. Thus it is also the same trend of density of population. In this aspect Hyderabad and Rangareddy are in first and second ranks while mahabubnagar, Nalgonda are bottom two districts with 11 (0.110) and 13 (0.130) percentages respectively. Surprisingly the Adilabad as the third rank with 27 (0.270) percent. The state average is 30 (0.300) percents only the top two districts are above the state average and remaining eight districts are below the state average. The overall income dimension (OID+PCI) of the state of Telangana is worked out as 0.322 in 2001. The averages of NAW+D.S+URB/3 = ODI and in this direction the

state average is 0.246 only. in two districts of Hyderabad and Rangareddy are at the top with 0.994 and 0.384 as the indicator values and the bottom two districts are Mahabubnagar and Nalgonda are with 0.126 and 0.152. the other are Khammam, Medak are with 0.156, Warangal 0.171, Karimnagar and Adilabad is 0.220 these are bottom to top. Surprisingly the Adilabad is top three after Hyderabad and Rangareddy because the NAW is value and the urbanization noted as more 0.390 and 0.270 than the majority of the districts in the state.

The overall income indicator value is including per capita income value. The state average is worked out as 0.322. Hyderabad, Ranga Reddy are at top two districts followed by Medak, Khammam, Karimnagar, Adilabad, Nizamabad, Warangal, Nalgonda, and Mahabubnagar are 0.997, 0.633, 0.476, 0.423, 0.281, 0.183, 0.098 and .068 average indicator values are

respectively. Thus it is clear that Hyderabad, Rangareddy districts are at the top in all aspects. But the bottom districts are not similar in PCI aspect Mahaboobnagar as the bottom NAW is khammam DP Adilabad and in URB again Mahaboobnagar districts are noted. On the base of the above analysis rest of Hyderabad and Ranga Reddy districts are very low in all income indicators average values. It implies that majority of the districts in the state are far away to the development indicator in 2001.

Table 3 According to the latest census 2011 and the Central Statistical Abstract information for 2012 of Andhra Pradesh, the district wise PCI, NAW, DP and the URB particulars for the 2011. The average PCI of Telangana state is worked out as Rs. 39288/-. Other than Hyderabad, Rangan Reddy and Medak districts, the RTR seven districts are below the state average.

**Table – 3: District- wise PCI & OID (Indicators) of UNDP in 2011
(Basic Figures and Indicator values of HDI formula)**

1	2	3	4	5	6	7	8	9	10	11	12
Sl. No	Name of the District	PCI	PCI HDV	% of NAW	NAW HDV	DP	DP Index	% of URB	URB Index	OID =6+8+10/3	OID + PCI= TIIV 4+11/2
1	Rangareddy	53234	0.735	707	0.029	70.32	0.703	47.55	0.476	0.402	0.558
2	Hyderabad	63595	1.000	18480	1.000	100.0	1.000	99.50	0.995	0.998	0.999
3	Nizamabad	30227	0.147	321	0.008	23.30	0.233	37.29	0.373	0.205	0.142
4	Medak	45111	0.528	313	0.008	24.20	0.242	25.6	0.256	0.168	0.329
5	Mahbubnagar	38131	0.349	219	0.003	15.00	0.150	21.42	0.214	0.122	0.210
6	Nalgonda	34766	0.263	245	0.004	19.00	0.190	29.42	0.294	0.162	0.184
7	Warangal	27291	0.072	274	0.006	28.34	0.283	29.37	0.294	0.194	0.097
8	Khammam	36903	0.318	175	0.000	23.43	0.234	28.66	0.287	0.174	0.219
9	Karimnagar	32289	0.200	322	0.008	26.80	0.268	35.49	0.355	0.210	0.174
10	Adilabad	31333	0.176	170	0.000	27.68	0.277	35.24	0.352	0.209	0.160
Total	Telangana	39288	0.378	307	0.007	35.80	0.358	38.95	0.389	0.251	0.290

Source: computed by the statistical abstract of Andhra Pradesh 2012

Hyderabad and Rangan Reddy are the top two districts in every income indicator of PCI, NWA, DP and URB , while the bottom two districts are Warangal and Nizamabad in PCI with Rs. 27291/- (0.001) and Rs. 30227/- (0.0081). In NAW Mahabubnagar and Medak 21.40 (0.214) and 25.60 (0.256) respectively, in the DP Adilabad is 170 (0.001) and Khammam is 175 (0.002) and in the URB Mahabubnar and Nalgonda districts are with 15.0 (0.150) and 19.0 (0.190) percent and indicator values respectively. It is clear that the bottom districts are not similar due to variation of indicator and the basic figures. The other income indicator values and the basic figures are varied but, the variation is very insignificant with slight changes. The NAW in the

total workers of the state is 39.0 (0.390). Only two districts are more than the state average. While the remaining are below the state averages. The DP of the state 307 as against the National average of 384, other eight districts are below the state average. Adilabad and Khammam are 170 and 175 respectively and the indicators values are 0.001 in each district. The average state URB is 35.8 (0.358) and the bottom two districts are Mahabubnagar and Nalgonda districts with 15.0 (0.150) and 19.0 (0.190) percent respectively.

The Other Income Dimension Indicator value average of three indicators is worked out. The state average value of OID is 0.251. The HYD and RR are at the top while the remaining eight are below the state

average. The bottom districts are Mhabubnagar and Nalgonda with 0.122 and 0.162 respectively. The Total Income Indicator Value (TIIV) as worked out with merging of PCI value and ODI and dived by two. The TIIV of the state is 0.290. The top three are with 0.999, 0.558 and 0.329 of Hyderabad, Rangna Reddy and Medak respectively. The bottom districts are Warangal 0.098, Nizamabad 0.142 and Adilabad is 0.160. The remaining four districts are similarly equal. In the state of Telangana except Hyderabad and Ranga Reddy districts, the remaining districts are far away to the development. Because lack of education, health, safe drinking water, electricity, transport and other infrastructure facilities are more concentrated in the two districts of Ranga Reddy and Hyderabad. The employment opportunities are more in urban

areas when compare with rural areas the Hyderabad and Ranga Reddy districts having the notable employment opportunities when compare with the other districts in the state. In addition to this the political will, proper leadership in the local level are the additional problems. These facts are also mentioned by the Sri Krishna Committee in 2010 and Fifty Years of Andhra Pradesh in 2005 and the Human Development Report of Andhra Pradesh prepared by CESS. The region wise PCI, NAW, DP and URB basic figures and the HDI indicator values for 2001 and 2011 study points are calculated in Metropolises Region (MR) and Rest of Telangana Region (RTR). Metropolises Region includes the Hyderabad and Ranga Reddy districts. And the remaining eight districts are RTR.

Table – 4: Region- wise PCI & OID (Indicators) of UNDP in 2001 (Basic Figures and Indicator values of HDI formula)

1	2	3	4	5	6	7	8	9	10	11	12
Sl. No	Name of the District	PCI	PCI HDV	% of NAW	NAW HDV	DP	DP Index	% of URB	URB Index	OID =6+8+10/3	OID + PCI= TIIV 4+11/2
1	MR	15346	0.941	78.93	0.789	9713	0.508	77.0	0.770	0.689	0.815
2	RTR	10936	0.288	34.34	0.343	232	0.004	17.62	0.176	0.175	0.231
3	Telangana	11818	0.418	43.26	0.433	270	0.006	30.0	1.30	0.190	0.304

Source: computed by the statistical abstract of Andhra Pradesh 2003

Table – 4, The Per capita Income of the Metropolises Region (MR) of Hyderabad and Ranga Reddy district is Rs. 15346/-. The indicator value is 0.941 and Rest of Telangana Region (RTR) of rest of eight district's PCI is Rs. 10936/- and HDI indicator value is worked out as 0.288 only but the state average is Rs. 11818/- and the value is 0.418 for 2001. In 2001, the NAW percent is 43.26 of the state average, the MR is 79.0 and RTR is 34.5 percent. The average Density of the population of MR is 9813 and the value is 0.508, while the RTR is 232 and the value is 0.004 only, the state average is 270 and the value is 0.006 only. The state average of urban people is 30.0 percent. The urbanization of MR is 77.0 and the RTR is 17.62 percent respectively and values of indicator as per the HDI formula 0.30 of the state, 0.77 and 0.176 are MR and RTR respectively. This type of trends is almost observed for the 2011 also, the table 5 is the evident.

Table – 5, The average PCI of the state is Rs. 39288/- and the HDI indicator value is 0.330 while it is Rs. 58415 and 34506 of MR and RTR and the values are 0.857 and 0.405 for the both regions for 2011 respectively. The NWA, DP and URB of the state is 38.95 (0.389), 307 (0.007) and 35.8 (0.358) respectively. For MR 73.52 (0.735), 9594 (0.515) and 85.16 (0.852) of NAW, DP and URB respectively, NWA is 30.31 (0.303), DP 255 (0.005) and URB 23.46

(0.235) of RTR respectively. On the whole, all the indicators basic figures and the HDI indicator values are the state averages are above to the RTR and below to the MR. This data and analysis implies that the inequalities are at significant level in between RTR and MR for the both periods of 2001 and 2011. The other income dimension of the state is 0.190, MR 0.689 and RTR 0.175. The overall income dimension of the state is 0.304, MR 0.815 and RTR is 0.231 for 2001 study point. The state average indicators values are below the MR and above the RTR. In 2011 the other income dimension of the state is 0.251, MR 0.700 and RTR 0.181. The overall income dimension of the state is 0.334, MR 0.778 and RTR is 0.231. The state average indicators values are below the MR and above the RTR. The development of RTR when compare with the MR is far away, it is clear from the analysis the Rest of Telangana Region districts are in very low level development in PCI, NWA, DP and URB also. In 2001 the state average values of indicators is worked out as 0.300, Metropolises Region is at the top, 0.770 and the RTR as the lowest with 0.176. In 2011 the value of four indicators of the state average has 0.330 and MR is 0.852 and in RTR 0.235 as the highest and the lowest when compare with the state averages

**Table – 5: Region- wise PCI & OID (Indicators) of UNDP in 2011
(Basic Figures and Indicator values of HDI formula)**

1	2	3	4	5	6	7	8	9	10	11	12
Sl. No	Name of the District	PCI	PCI HDV	% of NAW	NAW HDV	DP	DP Index	% of URB	URB Index	OID =6+8+10/3	OID + PCI= TIIV 4+11/2
1	MR	58415	0.857	73.52	0.735	9594	0.515	85.16	0.852	0.700	0.778
2	RTR	34506	0.405	30.31	0.303	255	0.005	23.46	0.235	0.181	0.231
3	Telangana	39288	0.418	38.95	0.389	307	0.007	35.80	0.358	0.251	0.334

Source: computed by the statistical abstract of Andhra Pradesh 2012

Conclusion and Suggestions: The study conclude that the newly formed Telangana State has the inter district variation are observed in the two study points of 2001 and 2011 census years. Particularly the Per capita income, non agriculture workers share in the total workers, density of the population and the urbanization as the parameters. For all the income dimensions the Hyderabad and the Ranga Reddy districts are at the top and the bottom districts are not similar. In the region wise is also observed the Hyderabad and Ranga Reddy districts are Metropolises Region and the rest of eight districts are Rest of Telangana Region. The MR is always a head and the RTR is as low even the state averages. Thus the study suggested that the social and economical infrastructure facilities are much needed for the rural areas. There is a need of appropriate rural technology

for improve the non farm employment in the rural areas. The stable and assured income source of employment has to be provide not only educated but also unskilled rural mass. The development is concentration in selected areas urban centers but, should be controlled and the policy makers and policy implication activities have to take the precaution to spread the development activities in the rural and victim areas. Now the state of Telangana need to develop quality infrastructure, both social and economic to attain better level of human development and where the development activities like the industries, education, credit and other services are concentrated this led to stop the migration. Then only in future we build the shape of golden Telangana as the developed state in the country.

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Dr. Ankasala Samba Siva Rao/ Faculty/ Department Of Economics/ Kakatiya University/
Warangal/ Ts/ India/