HUMAN DEVELOPMENT INDEX AND ITS MEASUREMENT IN CONTEXT OF HARYANA

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Introduction

Development of an economy over the years has focused attention on the growth rate of various macro-economic variables, such as GNP, balance of payments, saving rate, fiscal deficits etc. Growth rate has been accepted as the main yardstick of progress of a nation. However, experiences of growth have shown a wide gap between theoretical expectations and empirical reality. Economic growth in most nations has lead to unequal distribution of income. As a result, economic growth has failed to improve the living conditions of the People. Consequently, developmental theories and models of economic growth, which were able to achieve some success in terms of economic indicators of growth were unable to integrate all other aspects of development of an economy, especially 'man' and his condition of living. This has needed to reconstitute the entire objective and redeveloping the entire process of economic growth, making the pure growth theories tautological to a large extent, unable to meet the demand of the present situation. All these issues, which have recently been topics of heated debate has resulted in the emergence of the concept of Human Development.

CONCEPT OF ECONOMIC DEVELOPMENT AND HUMAN DEVELOPMENT

The concept of economic development is broader in scope than the economic growth. It tends to deal with economic welfare and distribution of income as well as national and per capita income. Hence the approach of economic development is a multi-dimensional approach which deals with many issues such as socio-economic welfare, human and physical development etc. All these issues are measured by taking

different indicators that may be related to life, education, health, sanitation, employment, poverty and distribution of income and wealth. Some economists (M.Ghosh, KeyaSengupta, Salam and Zaidi) emphasizes on the approach of human development, because they have assumed human development as base of overall economic growth. It is also shown in the Indian context that income, employment opportunities and economic development are pre conditions for raising nutritional levels of the population (Panikar 1980, Gopalan 1985). By considering the district-level HDI GeethaRani (1999) also finds that economic development opportunities as measured by output is an important factor for attaining high human development in India.

The concept of human development is much broader than economic development. According to this, all efforts of development should be directed towards the people and their well-being who are considered to be the main objective of economic growth. The concept of human development covers the welfare of not only the present generation, but future generation as well. Human being is the main factor of production, on whose shoulders whole economic development depends. A country will be well developed when its people are literate, skilled and capable. In other words, we can say that it is human beings of a country who determine its growth rate. That is why human development is required. Capability approach, along with the concept of central human capabilities and Basic Human Needs ultimately resulted into a major policy change in international development agencies and developing countries. United Nations Development Programme (UNDP) presented for the first time the measurable concept of human development in the form of Human Development Index (HDI). HDI was invented and launched by Pakistani Economist Mahbub-ul-Haq in 1990. The main purpose was "to shift the focus of development economics from national income accounting to people centered policies" (Haq, 1995). Well known economists (Paul Streeten, Frances Stewart, Gustav Ranis, Keith Griffin, SudhirAnand and Meghnad Desai etc.) have contributed in the development of HDI.

The publication of the first Human development report in 1990 by the UNDP marked the beginning of a new approach to the definition of development. The term 'economic development' which was replaced by 'socio-economic development' during the 1960s, has now transformed into 'human development'. To quote Mahbub-ul-Haq, the originator of human development reports, "The human dimension of development is not just another addition to development dialogue. It is an entirely new perspective, a revolutionary way to recast our conventional approach to development. With transition in thinking, human civilisation and democracy may reach yet another mile stone. Rather than the residual of development, human beings could finally become its principal object and subject – not a forgotten economic abstraction, but a living operational reality, not helpless victims or slaves of the very process of development they have unleashed but masters of it.He adds "The basic purpose of development is to enlarge people's choices. In principle, these choices can be infinite and can change over time.The objective of development is to create an enabling environment for people to enjoy long, healthy and creative lives"Thus, human development has been defined as the 'process of widening people's choices and the level of their achieved well being.

Objective of the Study:-

1. To examine the methodology of UNDP to construct Human Development Index.
2. To develop a Human Development Index (HDI) of agricultural developed (Kurukshetra and Kaithal) and industrial developed districts (Faridabad and Gurgaon) of Haryana for the time period 2000-01 and 2009-10.
3. To generate an overall ranking of selected districts of Haryana in terms of levels of human development as indicated by certain indicators for the time period 2000-01 and 2009-10.

Section -1

Data Sources and Research Methodology:-

During the process of constructing HDI and evaluating the human development paradigm secondary data and observations are used in whole study and the result that have been come out after analysis of the study, is totally based on secondary data. The Department of Economics and Statistical Analysis, Chandigarh, regularly publishes district outlines of all the districts. This was a major source of information for the present study. Besides these, there are publications of different Departments of the State Government in which data are made available for different districts periodically. The other major source of data for this study has been the research studies conducted by various scholars highlighting inter- district comparison in level of human development in Haryana and other states. The sources of study are as follows:-

For the study of health parameter, major source of information is Statistical Abstract of Haryana 2000-01, 2001-02, 2009-10 and 2010-2011.The 2000-01 and 2009-10 data on infant mortality rate for the districts had to be computed from the raw data collected by the Sample Registration Scheme (SRS) of the Census of India on a bi-annual basis. The bi-annual rural and urban figures had to be added to get infant deaths per thousand live births. Civil Registration System (CRS) under Civil Registration of Births and Deaths Act of 1969, the local governance bodies (Gram Panchayat and Municipality) record Births and Deaths in their areas. Data was also collected from Management Information System (MIS) of the Health and Family Welfare Department of Haryana, Census Book of Haryana (2000-01 and 2000-10) and Directorate of Health Services Haryana (Panchkula)are referred to for the infant mortality rate at the Indian State and Haryana District levels respectively.

Data on literacy at the state and the district level are obtained from the Primary Census Abstract of India, 2001 and 2011. For the HDI in 2000-01 and 2009-10, data on literacy rates for the state and its selected districts are obtained from the Census figures of 2001 and 2011.For the other education parametersdata was collected from Census Book of Haryana and Statistical Abstract of Haryana 2000-01, 2001-02, 2009-10 and 2010-11.

Data on the Per Capita Income of districts of Haryana in 2000-01 and 2009-10 are collected from the tentative figures worked out and supplied by the Bureau of Applied Economics and Statistics, Government of Haryana. For the income component, data on the per capita state domestic product for 2000-01 and 2009-10 are collected from the Quick Estimates of Central Statistical Organisation (CSO) of India published in the Statistical Pocket Book, 2002 and 2011. Data on District Domestic Product of Haryana districts are collected from the State Statistical Abstracts of Government of Haryana from 1999-2010. Central Statistical Organisation, Government of India's publication on Estimates of State Domestic Product, 2000-01 and 2009-10, is referred for data on state domestic product. For the data of per capita income major source was Department of Economic and Statistical Analysis, Chandigarh and Statistical Abstract of Haryana 2000-01, 2001-02 and 2010-11

Study Area

The purpose of this section is to discuss the methodology and data sources that have been used during the construction of Human Development Index (HDI) for selected districts of Haryana named Kurukshetra, Kaithal, Faridabad and Gurgaon along with our state Haryana. Kurukshetra&Kaithal are agriculturally developed districts and Faridabad &Gurgaon districts are known for their industrial development. Study evaluates the relative performance of all the selected districts in Haryana state in the field of education, health and per capita income.

Time Frame

In the present study human development is measured for the two points of time, i.e. 2000-01 and 2009-10. This study compares the one decade change in these districts in their human development performance.

Methodology of the Study

After collecting necessary data, it was tabulated, analysed and interpreted with the help of some necessary and simple statistical tool. Since, the methodology used in the present study is similar to that of UNDP; it is pertinent to outline the UNDP methodology. The series of constructing HDI has been started continuously by UNDP

since 1990. UNDP has measured the HDI through three dimensions[1] and each dimension is measured separately through the indices of indicators which are life expectancy at birth; educational attainment, as measured by a combination of adult literacy rate (two-third weight) and combined primary, secondary and tertiary enrolment ratios (one-third weight); and standard of living, as measured by real Gross Domestic Product (GDP) per capita in (US dollar PPP)[2]. To construct indices of indicators, UNDP has determined maximum and minimum value as goalposts for all the indicators separately that have been shown in appendix with a formula. Here only those maximum and minimum values of indicators are presented that have been used in the present study to construct the HDI for said districts and state, these values are:-

(A). For the indicator life expectancy at birth, the maximum and minimum values are 85 years and 25 years respectively for the year 2000-01 and 2009-10.

(B). For the indicator adult literacy rate, the maximum and minimum values are 100 per cent & zero per cent and for gross enrolment rate these values are also 100 per cent & zero per cent for the year 2000-01 and 2009-10.

(C). For the third indicator real GDP per capita, the maximum & minimum values are 53640 rupee and 10985 rupee respectively for year 2009-10 and 27613 rupee and 3342 rupee respectively for year 2000-01.

The general formula that is used for constructing the individual index for human development indicators and HDI elements is-

$$\text{Dimension Index } Xi = \frac{\text{(Actual value x – Minimum value x)}}{\text{(Maximum value x – Minimum value x)}}$$

Here x is the value of any indicator.

HDI is derived with the help of above formula as followed-

[1] Dimensions- A Long and Healthy Life, Knowledge, and A Decent Standard of Living
[2] PPP- purchasing power parity

HDI= 1/3 ∑ Xi

Here, HDI stands for human development index and HDI is the average of the three indices (life expectancy index, education index and per capita income index) where "i" stands for dimensions, "Xi" stands forvalue of any indicator and ∑ (sigma) stands for summation.

Here division and numerical range of HDI value is classified into four categories- low, medium, high and very high whose values lies between zero to one. Low category value lies between 0.000 to 0.499, medium category value lies between 0.500 to 0.799, high category value lies between 0.800 to 0.899 and very high between 0.900 to 1.000.

We can write in following manner:-

DIVISION	**NUMERICAL RANGE OF HDI**
VERY HIGH	1.000 - 0.900
HIGH	0.899 - 0.800
MEDIUM	0.799 - 0.500
LOW	0.499 - 0.000

The present study follows the UNDP's methodology and formula to construct the HDI for selected districts and state. UNDP uses the above methodology for the construction of HDI with the objective of international comparison. For inter-district comparison of performance of industrially developed districts and agriculturally developed districts on the basis of indicators of human development, which is the aim of present study, following modifications have been made in the above methodology. The indicators that have been used are shown below-

The first dimension that has been used by UNDP is 'longevity' and life expectancy is its indicator by which longevity is measured. UNDP measures life expectancy at birth. The indicator that is used in present study is estimated by Sample Registration System (SRS) for the period of time period 1987 to 2011 in the group of

five–five years. Here the used life expectancy of human being is existed during the time 1996 to 2001 and 2006 to 2011. The maximum–minimum values that are used here for this indicator are 85 years and 25 years which is similar to UNDP's goalposts value.

The second dimension of HDI is 'education attainment' which is measured by UNDP through adult literacy rate after giving it two-third weight and combined it with the average gross enrolment rate of (primary, secondary, and tertiary classes) after giving it one-third weight. The given total weight by UNDP is equal to one for all the dimensions, here for education attainment weight is also equal to one. But the main thing about this dimension is that the literacy rate which has been used in the present study is among those persons who are 15 year and above for adult literacy rate due to non availability of data in the same form. But the structure of constructing education index is similar to the UNDP methodology and its weight process. The maximum-minimum value for both literacy and gross enrolment rate are 100 per cent and zero per cent respectively which are extreme point.

The third and most important dimension of HDI is 'decent standard of living' which has been measured by UNDP through real per capita gross domestic product in US dollar. The UNDP has expressed that different countries can be different from one country to other in many respect. Therefore, to reflect same relevance of different countries currency into dollar is required to construct the HDI.But duringinter- district comparison within a state, there is no need to convert real per capita state domestic product into dollar. In the present study real per capita state domestic product in rupee is used without making any adjustment. Because, among districts of a state the purchasing power of money approximately remain similar. Although, in inter-district case some local goods may be cheaper than national price but the cost of other goods may be higher which are not local. This process may be neutralized by the purchasing power of money. Therefore, to make the simple process of constructing income index per capita income in rupee has been taken in the present study, which may be sufficient indicator to measure the decent standard of living. But along with using per capita income, the present study also follows the UNDP's formula of taking logarithm

of per capita income to reflect the conversion or relevance of income into good living of human beings. The maximum–minimum values which have been used to construct per capita income index are 53640 rupee and 10985 rupee. These are the extreme value in the form of per capita income of Maharashtra and Bihar during the time 2008-09 at constant price of 1999-00 at factor cost. For the time 2000-01 per capita income of Goa and Bihar is used to construct real GDP index are 27613 rupee and 3342rupee at constant price of 1999-00 at factor cost.

METHOD OF CALCULATING HDI

Human Development Index (HDI) is a composite index which combines economic and social factors to evaluate the development of a person, state or a country. There are three indices which are

- Describing dimensions for HDI to include.
- Describing indicators that capture these dimensions.
- Describing the method for combining these indicators to get a single value which represents HDI.

A long and healthy life (life expectancy index), being knowledgeable (education attainment index) and a decent standard of living (per capita income index) are the three proposed dimensions by United Nation Development Programme (UNDP) for calculating HDI. In our analysis we use some specified indicators describe by UNDP which capture these three dimensions. These indicators are then normalised between 0 and 1 by constructing an index for each dimension. To create an index we use the following general formula.

LIFE EXPECTANCY INDEX

Human development is directly connected with the health of an individual and also the population. Health parameter especially life expectancy at birth is an important ingredient of Human Development Index. Haryana has a long way to go in

achieving an acceptable Human Development Index. Hence health needs of people should be given their due importance.

Life expectancy at birth is used as an indicator for long and healthy life. For calculating the health index we use the general formula. The UNDP use 25 and 85 years as goalposts for life expectancy index. i.e.

$$\text{Life Expectancy Index} = \frac{(\text{life expectancy} . - 25)}{(85 - 25)}$$

EDUCATION ATTAINMENT INDEX

Education is a key factor in socio-economic development. A rational education system promotes science and technology, a scientific outlook, increases participation of people in the affairs of the nation and stimulates creative faculties. It also results in greater awareness of available opportunities. To meet cultural requirement and to develop human personality are also other aims or objectives of education. (Gupta, 1999)

The education attainment index is an aggregate index derived from two indices. One is theadult literacy rate i.e. the literacy rate of population of age 15 years and above. The other ratio is the gross enrolment ratio which is obtained by combining primary, secondary and tertiary gross enrolment in age 6 to 14 years. These two indices are combined, giving two third weights to adult literacy and one third weights to gross enrolment, to obtain the education index. The following mathematical form is thus needed to obtain the education index.

$$\text{Education Attainment Index} = \frac{2(\text{adult literacy index}) + 1(\text{gross enrolment index})}{3}$$

To calculate adult literacy ratio (ALR) index and gross enrolment ratio (GER) index, UNDP uses 0% and 100% values for min. and max. goalposts respectively in these formulas. Hence

$$\text{ALR Index} = \frac{(\text{adult literacy \%age} - 0)}{(100 - 0)}$$ **AND**

$$\text{GER Index} = \frac{(\text{gross enrolment \%age} - 0)}{(100 - 0)}$$

INCOME INDEX

To calculate per capita income index, UNDP uses GDP per capita (PPP$). The UNDP used 'adjusted per capita income for countries' to calculate income index. The GDP per capita (PPP$) is than transformed to log (GDP per capita (PPP$)) because increases of income at lower levels then greater impact on the income index. The following formula is thus used to calculate the income index.

$$\text{Income index} = \frac{\{\log(\text{GDP per capita (PPP\$)}) - \log(\$100)\}}{\{\log(\$40000) - \log(\$100)\}}$$

The GDP per capita in Indian rupees were calculated for each district of Haryana. This will affect income index values but the variation among the values of income index for different districts will be the same since this effect is constant for all four districts. Income index is then calculated for each districts of Haryana state according to the following formula for year 2000-01.

$$\text{Income index} = \frac{\{\log(\text{GDP per capita (Rs.)}) - \log(3342)\}}{\{\log(27613) - \log(3342)\}}$$

And Income index for year 2009-10 is

$$\text{Income index} = \frac{\{\log(\text{GDP per capita (Rs.)}) - \log(10985)\}}{}$$

{log (53640) – log (10985)}

We are also aware of this fact that costs of living in different district are different. But district with high cost of living also provide more opportunity for a person and mostly earning is also high in that district. This fact minimises the cost of living among different district. Also in calculation of income index we use logarithm (log) for values used in the formula that reduce the influence of higher values.

HUMAN DEVELOPMENT INDEX

After computing above three indices, HDI is calculated as simple average of these indices for each district of Haryana i.e.

$$HDI = \frac{\text{(Life Expectancy Index + Education Attainment Index+ Income Index)}}{3}$$

Section-2

CONSTRUCTION OF HDI OF SELECTED DISTRICTS OF HARYANA ((KURUKSHETRA AND KAITHAL, FARIDABAD, GURGAON)

In this paper an attempt has been made to assess the state of human development in Haryana and its selected districts (Kurukshetra, Kaithal, Faridabad, Gurgaon) by constructing Human Development Index (HDI). The HDI is computed for two point of time namely 200001 and 2009-10. The methodology used in computation of HDI is same as that developed by UNDP (1990). Districts have been grouped under four categories (i) the first category is the group of districts in the HDI range between 0.900 and 1.00. They are classified as Very High Human Development group, (ii) districts in the HDI range between 0.800 and 0.899 are classified as high Human Development group, (iii) districts in the HDI range from 0.500 to 0.799 are classified as Medium Human Development group, and (iv) districts in the HDI range of less than 0.500 points are classified in the Low Human Development group. We

have also attempted to decompose the change in human development at two point of time to assess the relative contribution of each dimension. The indices of adult literacy rate, gross enrolment rate, life expectancy and per capita income along with HDI value of Haryana and its selected districts (Kurukshetra, Kaithal, Faridabad and Gurgaon) are given below.

Educational Attainment Index

Educational Attainment Index was originally measured only through the adult literacy defined as "the percentage of persons aged 15 and over, who can, with understanding, both read and write a short simple statement on everyday life"[3] HDR 1991 broadened this measure to incorporate mean years of schooling. As reliable data on mean years of schooling was not available, educational attainment now include adult literacy with the two-third weight and gross enrolment by combining primary, secondary and tertiary enrolment with one-third weight. The gross combined primary, secondary and tertiary enrolment termed as gross enrolment ratio has been defined by UNDP as "the number of students enrolled in a level of education, whether or not they belong in the relevant age group for that level, as the percentage of the population in the relevant age group for that level". The relevant age group in different levels of education has not been specified by UNDP but it is taken from 6 to 14 years. Using the information from the collected data, we have calculated the educational attainment indices for districts considered for the year 2000-01 and 2009-10 by giving two-third weight to adult literacy rate and one-third weight to combined enrolment ratio. To analyse the position of districts on the basis of the educational development, a composite index, i.e. 'Educational Attainment Index' has been formulated for the two years. Districts are ranked in ascending order of magnitude according to their development level. This Educational Attainment Index has been shown in table- 2.1.

Table- 2.1

Educational Attainment Index

[3] Human Development Report 1990, pp. 183-183

State/ districts	2000-01				2009-10			
	Adult Literacy Rate index	GEI	Educational Attainment index	Rank	Adult Literacy Rate index	GEI	Educational Attainment index	Rank
Haryana	0.679	0.715	0.691	4	0.766	0.829	0.787	3
Kurukshetra	0.698	0.742	0.712	3	0.767	0.789	0.774	4
Kaithal	0.590	0.721	0.633	5	0.705	0.886	0.745	5
Faridabad	0.762	0.841	0.779	1	0.830	0.999	0.886	2
Gurgaon	0.785	0.742	0.770	2	0.844	0.938	0.983	1

Source: Calculated by Author

GEI- Gross Enrolment Index

Table- 2.1 shows that Adult Literacy Rate Index value of state was 0.679 in 2000-01 and 0.766 in 2009-10 which is higher from the Adult Literacy Rate Index value of 2000-01. For the year 2000-01 Adult Literacy Rate Index value of Kurukshetra district was 0.698 which was less from the value of 0.767 for 2009-10. Kaithal district's Adult Literacy Rate Index value was 0.590 in 2000-01 which is also less than the value 0.705 of 2009-10. Faridabad district's Adult Literacy Rate Index was 0.762 in 2000-01 and its value was 0.830 in 2009-10. Gurgaon district's Adult Literacy Rate Index value was 0.785 in 2000-01 and its value was 0.844 in 2009-10. Gurgaon has the highest value in Adult Literacy Rate Index among all the selected districts in 2009-10 as well as in 2000-01. Kaithal Adult Literacy Rate Index was at lowest position in 2009-10 as well as in 2000-01. Here we can say that both the agriculturally developed districts are very far from industrially developed districts in providing education to pupils.

The Gross Enrolment Index (GEI) value of state Haryana was 0.715 in 2000-01 and it was 0.829 in 2009-10. For the districts Kurukshetra GEI value was 0.712 in

2000-01. For Kaithal GEI value was 0.590, for Faridabad GEI value was 0.814 and it was 0.742 for Gurgaon district in 2000-01. For the districts Kurukshetra GEI value was 0.789 in 2009-10. For Kaithal GEI value was 0.886, for Faridabad GEI value was 0.830 and it was 0.844 for Gurgaon district in 2009-10. Haryana's GEI value was much less than from GEI of Kaithal, Faridabad and Gurgaon except Kurukshetra in 2009-10. Kaithal district had less GEI index value from all the selected district and state in 2000-01 but it improved a lot in one decade and crossed the Kurukshetra district in this field. Here again industrially developed districts are performing well in comparison to agriculturally developed districts.

Finally, for Education Attainment Index, which is the combination of Adult Literacy Rate Index and Gross Enrolment Index, Haryana had the value 0.691 in 2000-01 and it was 0.787 in 2009-10. Kurukshetra had the Education Attainment Index value at 0.712, Kaithal had the Education Attainment Index value at 0.633, Faridabad had the Education Attainment Index value at 0.814 and Gurgaon had the Education Attainment Index value at 0.770 in 2000-01. Again Kurukshetra had the Education Attainment Index value at 0.774, Kaithal had the Education Attainment Index value at 0.745, Faridabad had the Education Attainment Index value at 0.886 and Gurgaon had the Education Attainment Index value at 0.983 in 2009-10. Table-2.1 shows that Gurgaon was the only district who scores 0.983 in Education Attainment Index, among all the districts, it has the highest Education Attainment Index in 2009-10 but Faridabad was at top position in the same index with value 0.779 in 2000-01. Kurukshetra and Kaithal Education Attainment Index lied after the Education Attainment Index of state as well as of Faridabad and Gurgaon district in 2009-10. There Education Attainment Index was high from state index in 2000-01 but less from the Education Attainment index of Faridabad and Gurgaon district. At last we can say that in Education Attainment index industrially developed districts are at better position than the agriculturally developed districts in providing education facilities to pupils.

Life Expectancy Index

Life expectancy is a function of many variables. Prominent among those are health and nutrition. With expansion in the health facilities and increase in the availability of food, the life expectancy is likely to go up. Increase in life expectancy means the returns from human capital would go up as persons already trained and educated are likely to survive for more years. To analyse the position of districts on the basis of the health development, a composite index, i.e. 'Life Expectancy Index' has been formulated for the two years i.e. for 2000-01 and 2009-10. Districts are ranked in ascending order of magnitude according to their development level. This Life Expectancy Index has been shown in table- 2.2.

Table- 2.2

Life Expectancy Index

State/ districts	2000-01		2009-10	
	LEI	Rank	LEI	Rank
Haryana	0.640	4	0.700	3
Kurukshetra	0.650	3	0.723	1
Kaithal	0.645	5	0.721	2
Faridabad	0.779	1	0.700	3
Gurgaon	0.770	2	0.676	4

Source: Calculated by author

LEI- Life Expectancy Index

Table- 2.2 shows the Life Expectancy Index of selected districts of Haryana for study. A look at table- 2.2 reveals the picture of life expectancy in Haryana. The Life Expectancy Index (LEI) value of state Haryana was 0.640 in 2000-01 and it was 0.700 in 2009-10. For the district Kurukshetra LEI value was 0.650 in 2000-01. For Kaithal LEI value was 0.645, for Faridabad LEI value was 0.660 and it was 0.653 for

Gurgaon district in 2000-01. For the district Kurukshetra LEI value was 0.723 in 2009-10. For Kaithal LEI value was 0.721, for Faridabad LEI value was 0.700 and it was 0.676 for Gurgaon district in 2009-10. In Life Expectancy Index, Haryana has value 0.700 in 2009-10 which was equal to the value of Faridabad's Life Expectancy Index for the same year 2009-10. Kurukshetra was at first position among the selected districts in 2009-10 in life expectancy. The state Haryana had the Life Expectancy Index value lowest among all the selected districts in both academic years 2000-01 and 2009-10. Table- 2.2 shows that the index varies within the range of 0.676 to 0.723 and it is clear from the ranking of the districts that, Kurukshetra was at top with highest value of LEI (0.723) among the selected districts for which analysis has been undertaken. Table- 2.2 further shows that Gurgaon had the minimum value of Life Expectancy Index. Here the shown Life Expectancy Index contains combined result of male-female life expectancy as well as rural-urban life expectancy. However, the life expectancy in itself and its index may be different in rural-urban area as well as in male-female. But here that life expectancy value is used which is available in combined terms for the state and districts. Table- 2.2 shows life expectancy has reduced in industrially developed districts and increased in agriculturally developed districts in a decade.

Per Capita Income Index

To analyse the position of districts on the basis of the economic development, a composite index, i.e. 'Per Capita Income Index' has been formulated for the two years. Districts are ranked in ascending order of magnitude according to their development level. This Per Capita Income Index of selected districts for the year 2000-01 and 2009-10 at factor cost at constant (1999-2000) prices has been shown in table- 2.3.

Table-2.3

Per Capita Income Index

State/ districts	2000-01		2009-10	
	PCI Index	Rank	PCI Index	Rank
Haryana	0.941	3	0.844	3
Kurukshetra	0.853	4	0.662	4
Kaithal	0.805	5	0.508	5
Faridabad	.0952	2	0.899	2
Gurgaon	0.987	1	0.937	1

Source: calculated by author

PCI- Per Capita Income

The table- 2.3 shows large variation in Per Capita Income Index of the selected districts. The Per Capita Income Index value of state was 0.941 in 2000-01 which is higher from the Per Capita Income Index value of 0.844 in 2009-10. Kurukshetra district Per Capita Income Index value was 0.853 in 2000-01 and it was 0.662 in 2009-10. For the district Kaithal Per Capita Income Index value was 0.853 in 2000-01 and it was 0.662 in 2009-10. For the districts Faridabad Per Capita Income Index value was 0.952 in 2000-01 and it was 0.899 in 2009-10. For Gurgaon this value was 0.987 and it was 0.937 in 2009-10. The value of Per Capita Income Index has decreased in one decade for all the selected districts. Gurgaon has highest Per Capita Income Index value among the selected districts and Kaithal is considered as the poorest district in all with lowest Per Capita Income Index value. Here it is found that industrially developed districts are having highest value and agriculturally developed districts are lagging behind in the field of economic growth as well.

Section-3

Human Development Index

Human Development Index as per the methodology of UNDP is the simple average of three indices: Life Expectancy Index, Educational Attainment Index, and Per Capita Income Index. If we combine all the above defined indices of development, we get the HDI of state Haryana along with its selected districts. We have constructed HDI for the selected districts of Haryana pertaining to the year 2000-01 and 2009-10. To analyse the position of districts on the basis of the human development, a composite index, i.e. 'Human Development Index' has been formulated for the two years. Districts are ranked in ascending order of magnitude according to their development level. This Human Development Index has been shown in table- 3.1.

Table- 3.1

State/ Districts	2000-01							2009-10						
	Literacy Index	GEI	Educational Index	LEI	GDP Per Captia Index	HDI	Rank	Literacy Index	GEI	Educational Index	LEI	GDP Per Captia Index	HDI	Rank
Haryana	.679	.715	.691	.64	.941	.757	3	.766	.829	.787	.70	.844	.777	3
Kurukshetra	.698	.742	.712	.65	.853	.738	4	.767	.789	.774	.723	.662	.719	4
Kaithal	.590	.721	.633	.645	.805	.694	5	.705	.886	.745	.721	.508	.658	5
Faridabad	.762	.814	.779	.66	.952	.797	2	.830	.999	.886	.70	.899	.828	2
Gurgaon	.785	.742	.770	.653	.987	.802	1	.844	.938	.983	.676	.937	.865	1

PROFILE OF HUMAN DEVELOPMENT INDEX

Source:- Calculated by author

Note-:

GEI- Gross Enrolment Index

LEI- Life Expectancy Index

HDI- Human Development Index

The HDI in the above table 3.1 has been constructed, using the given definition of HDI. HDI value of Haryana was 0.757 in 2000-01 and it was 0.777 in 2009-10. The value shows not much improvement in the value in one decade. HDI value of Kurukshetra was 0.738 in 2000-01 and it was 0.719 in 2009-10. HDI value of Kaithal was 0.694 in 2000-01 and it was 0.658 in 2009-10. HDI value of Faridabad was 0.797 in 2000-01 and it was 0.828 in 2009-10. Again the HDI value of Gurgaon was 0.802 in 2000-01 and it was 0.865 in 2009-10. If we compare the HDI value of all the selected districts we come to the result that in one decade agricultural developed districts value has decreased as compared to the industrial developed districts. Kaithal is at bottom in both years in HDI value. District Faridabad and Gurgaon of the state comes near the level of high human development (HDI 0.8 to 0.899), and Kurukshetra and Kaithal districts are come in the category of medium human development (HDI between 0.5 and less than 0.799). No district of the state has low level of development. A close perusal of the data for one decade reveals that all districts are making effort in varying degree to improve their human development indices.

After the construction of HDI of four districts along with the state Haryana, we now come at the position to rank all the districts according to their performance in human development.Districts are ranked in ascending order of magnitude according to their development level. Position of all the districts remained unchanged over the decade. Gurgaon is at first position in 2000-01 as well as in 2009-10. Faridabad is at second position in 2000-01 as well as in 2009-10. Kurukshetra is at third position and Kaithal got the fourth position in performance in human development.

In last, we conclude that districts which are industrially developed (Faridabad and Gurgaon) are in much better position in human development than the districts which are agriculturally developed (Kurukshetra and Kaithal) in Haryana in all the three selected Indicators.

Conclusion:-

The above analysis evaluates the relative performance of agriculturally developed (Kurukshetra and Kaithal) and industrially developed districts (Faridabad and Gurgaon) of Haryana in human development and the constructionof the human development index of selected districts. In the context of human development index, we can say that the state stood

in medium human development category with the HDI value 0.777 and both the agriculturally developed districts also lie in medium human development category, their HDI value are shown along with namesKurukshetra (0.719), Kaithal (0.658) in 2009-10. Faridabad (0.828) and Gurgaon (0.865) lie in high development districts category in 2009-10. The HDI in Haryana indicates that the industrially developed districts have higher levels of human development than the agriculturally districts. The empirical analysis has highlighted that the district Kaithal is the most backward amongst all the selected districts of the state of Haryana. There exist intra-district disparities in human development attainment with Kaithal being the only district with a HDI value of 0.658 and rest of the districts having values higher. The situation in this district needs serious and immediate measures for improving the social and economic condition. The variability in the levels of all the critical components of the district HDI namely, per capita income, literacy and IMR highlights inadequacies in this region. Thus it has been observed that extreme southern Haryana comprised of district Gurgaon and other are highly developed districts. District Gurgaon is highly developed only on the basis of industrial development, otherwise this district would be least developed. This is true for both 2000-01 and 2009-10 implying that there is no improvement in social services in Gurgaon and has not changed over time.Almost all the districts in Haryana showed a monotonic increase in per capita income, literacy, health and HDI over a decade.The districts which are economically better off performed well in human development while the districts, which were at the bottom of economic progress, also had a low level of human development.Thus, efforts should be made to develop the social infrastructure with more stress on the development of health and education infrastructure. Special efforts should be made to spread female education. Other possible causes must be identified. On the basis of the findings suitable policy measures must be formulated and implemented.

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