

# Human Development Index (HDI) in India

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## Component IB: Description of the Module

Items	Description of Module
Subject Name	Geography
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## **Component II- e-text**

### **Introduction**

Human Development is the process of enlarging people's choices. The ethos of planning in India has always been people centric. However, introduction of the human development paradigm in the planning mechanism ensured the focus of human development in the growth process. As the country was opening up its economy in the 1990s, this central position was essential for policy planners to continue focussing on people who may be excluded from market oriented growth. Additionally, it is extremely essential to incorporate human development into the planning process so that people can be empowered to hold their Governments to account and Governments can be encouraged to be responsive to the needs of the people. (UNDP, 2010).

Thus, in 1990, the UNDP gave call for a broad approach to improving human well being that would cover all aspects of human life, for all people, in both high income and developing countries, both now and in the future. It went far beyond narrowly defined economic development to care for the full flourishing of all human choices essential for quality of life. For a large country such as India the utility of study of human development is enhanced once the exercise is attempted at the state level. Apart from the diversity, an important reason for establishing a "bench mark" and subsequent "follow-up" on different aspects of human welfare at the state level is due to the dominant role played by the states in social sectors in the country.

### **Human Development Approach**

For decades, countries' levels of welfare were measured in terms of economic growth or an increase in per capita gross domestic product (GDP). While this approach has the advantage of being straightforward and easy to use, the failure of economic growth to improve the wellbeing of a significant proportion of people in many countries has

underscored the need for a more encompassing measure that also captures human development. The concept of human development emerged in the late 1980s based on the conceptual foundation provided by Dr. Amartya Sen and Dr. Mahbub ul Haq. The HD approach puts people at the centre of the development agenda, where economic growth and wealth are considered means to development, not an end by itself. Put simply, the starting point for the human development approach is the idea that the purpose of development is to improve human lives by not only enhancing income but also expanding the range of things that a person can be and can do, such as be healthy and well nourished, be knowledgeable, and to participate in community life. Seen from this viewpoint, development is about removing the obstacles to what a person can do in life, obstacles such as lack of income, illiteracy, ill health, lack of access to resources, or lack of civil and political freedoms.

The first Human Development Report defines human development as a process of enlarging people's choices. To lead a long and healthy life, to be educated and to enjoy a decent standard of living are the three most critical choices identified in the first HDR. Additional choices include political freedom, guaranteed human rights and self respect.

### **History of the Concept**

Although the rediscovery of the concept is about thirty years old, interest in this subject is not new. Today's belated return to human development means reclaiming an old and established heritage rather than importing and implanting a new diversion.

The roots of the concept of human development can be traced to early periods in human history and can be found in many cultures and religions. The idea that social arrangements must be judged by the extent to which they promote 'human goods' dates at least to Aristotle (384 -322 B.C.) (Haq, 1995). In ancient Greece, Aristotle argued that: "Wealth is

evidently not the good we are seeking, for it is merely useful for the sake of something else.”

Immanuel Kant (1724-1804) continued the tradition of treating human beings as the real end of all activities. And when Adam Smith showed his concern that economic development should enable a person to mix freely with others without being “ashamed to appear in public” he was expressing a concept of poverty that went beyond counting calories – a concept that integrated the poor into the mainstream of the community.

However, During the Post Second World War era, the development agenda, however, centered on growth rather than human wellbeing. The focus was on accumulation of physical capital through savings and investments for promoting industrial development and growth in the war torn economies. The economic growth paradigm neglected important aspects of development, such as income inequalities, unemployment, and disparities in access to public goods and services such as health and education.

By the late 60's and early 70's a general shift in the development debate started to take place, where more emphasis was put on social development rather than capital accumulation and growth. The ‘basic needs’ approach was introduced, putting the basic needs of people such as access to basic education, basic health care, food, nutrition, water and sanitation on the agenda. Fulfillment of these basic needs was seen as a prerequisite for development.

In 1990, human development was given a firmer conceptual, quantitative and policies focus through the publication of the first global HDR. Human development combines the capabilities and basic needs approaches with a greater emphasis on the ability of human beings to lead the lives that they aspire to and the enhancement of the substantive choices that they have. The human development framework is anchored in the idea that while economic prosperity may help people lead freer and more fulfilling lives, education and health, among other factors, influence the quality of people's freedoms. Human development helps people to lead more healthy, lengthy and knowledgeable lives.

## **Human Development Index (HDI)**

The first Human Development Report in 1990 introduced a new way of measuring development by combining indicators of life expectancy, educational attainment and income into a composite human development index, the HDI. The components are measured by four variables: GDP per capita, (PPP USD), literacy rates (%), combined gross enrollment ratio,(%) and life expectancy at birth (years). The composite index results in a figure between 0 and 1, of which 1 indicates high level of human development and 0 being no level of human development.

The formulation of the HDI as a measure of human development was based on many objectives, with the following of paramount importance:

- Develop indicators that measure the basic dimensions of human development and the enlargement of people's choices;
- Make use of a limited number of indicators to keep the measure simple;
- Devise a composite index rather than an excessive number of separate indices;
- Create a measure that covers both economic and social choices;
- Ensure a flexible measure subject to gradual refinement as analytical critiques emerge; and
- Rank countries with the index to advocate for data relevant to human development policies, and investments in data collection and analysis.

The index as it is currently measured is very basic, consisting of the following dimensions:

- A long and healthy life, measured by life expectancy at birth;
- Knowledge, measured by the adult literacy rate and the combined gross enrolment ratio at primary, secondary and tertiary levels; and

- A decent standard of living, measured by GDP per capita in purchasing power parity (PPP) US dollar terms.

## Steps to calculate the Human Development Index

There are two steps to calculating the HDI.

### Step 1. Creating the dimension indices

Minimum and maximum values (goalposts) are set in order to transform the indicators into indices between 0 and 1. The maximums are the highest observed values in the time series (1980-2012). The minimum values can be appropriately conceived of as subsistence values. The minimum values are set at 20 years for life expectancy, at 0 years for both education variables and at \$100 for per capita gross national income (GNI). The low value for income can be justified by the considerable amount of unmeasured subsistence and nonmarket production in economies close to the minimum, not captured in the official data.

Having defined the minimum and maximum values, the sub indices are calculated as follows:

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For education, equation 1 is applied to each of the two subcomponents, then a geometric mean of the resulting indices is created and finally, equation 1 is reapplied to the geometric mean of the indices using 0 as the minimum and the highest geometric For education, equation 1 is applied to each of the two subcomponents, then a geometric mean of the resulting indices is created and finally, equation 1 is reapplied to the geometric mean of the indices using 0 as the minimum and the highest geometric mean of the resulting indices for the time period under consideration as the maximum. This is equivalent to applying equation 1 directly to the geometric mean of the two subcomponents.

Because each dimension index is a proxy for capabilities in the corresponding dimension, the transformation function from income to capabilities is likely to be concave (Anand and Sen 2000). Thus, for income the natural logarithm of the actual, minimum and maximum values is used.

## Step 2. Aggregating the subindices to produce the Human Development Index

The HDI is the geometric mean of the three dimension indices:

$$(I_{Life}^{1/3} \cdot I_{Education}^{1/3} \cdot I_{Income}^{1/3}).$$

MAJOR REFINEMENTS IN THE HDI	
Refinement	Year
The method of calculation was revised to give the index a positive twist.	1991
Mean years of schooling was added as a second component to form educational attainment. Adult literacy was given two-thirds weight and mean years of schooling one-third.	1991
A cut-off income of US \$5,000 per capita per year, based on the world average, was introduced. This decision was based on the assumption that each person as a member of the global community requires at least that income to build basic capabilities. Income above the cut-off point was adjusted using a highly regressive formula.	1991
Fixed minima and maxima were introduced based on the trends of variables and their probable values in the next 25 years.	1994
Mean years of schooling was replaced with combined gross enrolment at the primary, secondary and tertiary levels because the data on the former did not necessarily reflect reality.	1995
The formulation of logging income throughout was reintroduced because the adjustment introduced in 1991 was so drastic that middle-income countries were unjustifiably penalized. The treatment of income in the HDI now emphasizes that people do not need an infinite amount of income for a decent standard of living. As income increases, its value is adjusted downwards through mathematical treatment before it enters the HDI.	1999

Source: Adapted from Jahan in Fukuda-Parr et al. 2004.

## Calculating the human development indices—graphical presentation

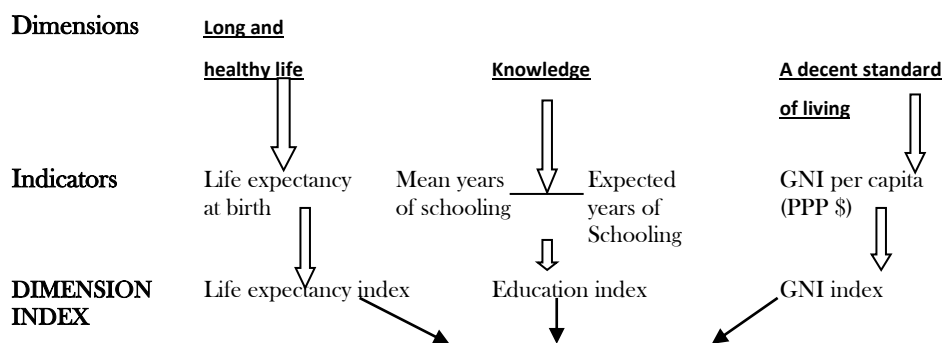


Fig.1 Human Development Index (HDI)

## Components of Human Development Index (HDI) in India

### Knowledge: Literacy

Literacy level and educational attainment are vital indicators of development in a society. Attainment of universal primary education is one of the Millennium Development Goals of the United Nations to be achieved by the year 2015. Literacy rate and educational development are considered to be key variables affecting demographic indicators like fertility, mortality (especially infant mortality) rate and migration. It greatly contributes in improving quality of life, particularly with regard to life expectancy, infant mortality, learning levels and nutritional levels of children. Higher level of literacy and educational development lead to greater awareness on the one hand and help people in acquiring new skills on the other. Literacy is critical for promoting and communicating sustainable development and improving the capacity of people to address environment and development issues. It facilitates the achievement of environmental and ethical awareness, values, and skills consistent with sustainable development and effective public participation in decision-making.

This indicator provides a measure of the stock of literate persons within the adult population who are capable of using written words in daily life and to continue to learn. It reflects the accumulated accomplishment of education in spreading literacy. Any shortfall in literacy would provide indications of efforts required in the future to extend literacy to the remaining adult illiterate population.



The number of literates and illiterates aged seven and above in India as per the provisional population totals of Census 2011 are 778,454,120 and 272,950,015 respectively. There has been a marked improvement in the proportion of literates in the last decade. Literates in 2011 constitute 74 per cent of the total population aged seven and above as compared to 65 percent in 2001. On the other hand, illiterates form 26 per cent of the total population in 2011 as compared to 35 percent in 2001.

In India, between 1980 and 2013, mean years of schooling increased by 2.5 years and expected years of schooling increased by 5.3 years.



**Table-1: India: Education Scenario**

<b>Year</b>	<b>Expected Years of Schooling</b>	<b>Mean Years of Schooling</b>
1980	6.4	1.9
1985	7.3	2.4
1990	7.6	3
1995	8.3	3.3
2000	8.5	3.6
2005	10	4
2010	11.1	4.4
2011	11.7	4.4
2012	11.7	4.4
2013	11.7	4.4

Source: State of Literacy, 2011, Census of India.

The national average of mean years of schooling is 4.10 years. All states with the exception of economically poorer states of Bihar, Madhya Pradesh, Rajasthan, Orissa and Uttar Pradesh (including the newly formed states of Chhattisgarh, Jharkhand, and Uttarakhand ) and Assam fare as good as or better than the nation as a whole in the sub-index of the education dimension. Kerala performs exceptionally well with a figure of 6.19 years. It is followed by Maharashta and Punjab at 5.12 years.

**Table-2: Statewise Schooling**

States	Expected Years of Schooling	Mean Years of Schooling
Andhra Pradesh	3.06	9.66
Assam	3.96	9.54
Bihar	2.97	9.58
Chhattisgarh	3.39	9.31
Gujarat	4.54	8.79
Haryana	4.74	9.68
Himachal Pradesh	4.88	11.05
Jharkhand	3.32	9.68
Karnataka	3.95	9.75
Kerala	6.19	11.33
Madhya Pradesh	3.47	8.95
Maharashtra	5.12	9.86
Orissa	3.34	8.74
Punjab	5.12	9.8
Rajasthan	2.96	9.19
Tamil Nadu	4.79	10.57
Uttar Pradesh	3.56	9.19
Uttarakhand	4.97	10.23
West Bengal	4.36	8.87
<b>India</b>	<b>4.1</b>	<b>9.62</b>

Source: NSS data on educational status and training in India (GoI, 2006b)

School Life Expectancy (or Expected years of schooling) is defined as the number of years of schooling that a child of school entrance age can expect to receive if prevailing patterns of age-specific enrollment rates were to stay the same throughout the child's life (UNDP 2010). Estimates for states in India are made taking into account agespecific enrollment rates for the age group six to 18 years (both inclusive). The national average for expected years of schooling is 9.62 years. Kerala again leads the pack with 11.33 expected years of schooling. It is followed by Himachal Pradesh (11.05), Tamil Nadu (10.57) and Uttarakhand (10.23).

### **Long and Healthy Life: Life Expectancy at Birth**

This indicator shows the expected years that an individual born will live. The importance of this indicator is that it gives an indication about the kind of health services and amenities available to population. The

lower value of life expectancy implies either the health services provided are not sufficient or the work undertaken in life leads to reduction in the years that a person lives. Mortality, with fertility and migration, determines the size of human populations, their composition by age and sex, and the population's potential for future growth. Life expectancy, a basic indicator, is closely connected with health conditions, which are in turn an integral part of development. The Programme of Action of the International Conference on Population and Development (ICPD) notes that the unprecedented increase in human longevity reflects gains in public health and in access to primary health-care services (paragraphs 8.1 and 8.2), which Agenda 21 recognizes as an integral part of sustainable development and primary environmental care (paragraph 6.1). The ICPD Programme of Action highlights the need to reduce disparities in mortality and morbidity among countries and between socio-economic and ethnic groups. It identifies the health effects of environmental degradation and exposure to hazardous substances in the work-place as issues of increasing concern. Life expectancy is included as a basic indicator of health and social development in, among others, the Minimum National Social Data Set endorsed by the United Nations Statistical Commission at its 29th session in 1997, the Human Development Index, the UNDG-CCA indicator set and the OECD/DAC core indicators.

In India, the life expectancy at birth for male was 62.6 years as compared to females, 64.2 years according to 2002-06 estimates. Urban Male (67.1 years) and Urban Female (70 years) have longer life span as compared to their rural counter parts. The life expectancy in Kerala is the highest (74 years) and the lowest in Madhya Pradesh (58 years).



Fig.2: Life Expectancy

Source: The Future of Population in India, Population Reference Bureau, 2007.

### Decent Standard of Living: GNI Per Capita PPP\$

Income provides material wealth, which opens up avenues for enhancing the capabilities. Income may not directly lead to a better life but it certainly improves the standard of living and also gives freedom to make choices in life. It is an important aspect of any human development strategy.

Globally, it is important to use standard indicators to calculate the HDI for cross-country comparisons. At the national level, available sub-national data should guide the choice of indicators. Per capita income from household surveys can be used instead of GDP per capita, for instance.

Gross Domestic Product (GDP) is the monetary value of goods and services produced in a country irrespective of how much is retained in the country. Gross National Income (GNI) expresses the income accrued to residents of a country, including international flows such as remittances and aid, and excluding income generated in the country but repatriated abroad. Thus, GNI is a more accurate measure of a country's economic welfare.

Gross national product (GNP) contributes to HD through household and government activity, community organizations and non-governmental organizations (NGOs). The same level of GNP can lead to very different HD performances depending on the allocation of GNP to various groups and to distribution within each category. The propensity of households to spend their income on items which contribute most directly to the promotion of HD, e.g., food, potable water, education and health, varies depending on the level and distribution of income across households, as well as on who controls the allocation of expenditure within households. In general, as the incomes of the poor rise, the proportion of income spent on HD increases (Behrman, 1993, 1996).

**Table-3: Statewise per capita income**

States	PPP Income Per Capita (PPP2008\$)
Andhra Pradesh	3398.76
Assam	2883.44
Bihar	2161.8
Chhattisgarh	2497
Gujarat	3782.87
Haryana	4574.51
Himachal Pradesh	4168.39
Jharkhand	2516.41
Karnataka	3269.76
Kerala	5262.89
Madhya Pradesh	2673.76
Maharashtra	3913.14
Orissa	2185.84
Punjab	4885.12
Rajasthan	3289.27
Tamil Nadu	3835.05
Uttar Pradesh	2910.58
Uttarakhand	3536.13
West Bengal	3414.08
<b>India</b>	<b>3337.33</b>

Source: NSS Data, 2006

## India: Composite Development Profile- Human Development Index

India's HDI value for 2013 is 0.586. This is in the medium human development category of countries. India ranks 135 out of 187 countries and territories. Between 1980 and 2013, India's HDI value increased from 0.396 to 0.586, an increase of 58.7 percent or an average annual increase of 1.41 percent.

Table-4: India: Human Development Index (HDI)1980-2013

Year	Expected Years of Schooling	Mean Years of Schooling	Life Expectancy at Birth	GNI per capita (2011 PPP\$)	HDI Value
1980	6.4	1.9	55.4	1268	0.369
1985	7.3	2.4	57.1	1490	0.404
1990	7.6	3	58.5	1789	0.431
1995	8.3	3.3	60.2	2087	0.458
2000	8.5	3.6	62.1	2573	0.483
2005	10	4	64.1	3305	0.527
2010	11.1	4.4	65.7	4589	0.57
2011	11.7	4.4	65.9	4841	0.581
2012	11.7	4.4	66.2	5000	0.583
2013	11.7	4.4	66.4	5150	0.586

India's 2013 HDI of 0.586 is below the average of 0.614 for countries in the medium human development group and below the average of 0.588 for countries in South Asia. From, South Asia, countries which are close to India in 2013 HDI rank and to some extent in population size are Bangladesh and Pakistan, which have HDIs ranked 142 and 146 respectively.

The major states are distributed between the categories of countries with 'Medium' and 'Low Human Development' as per the HDR 2013 classification. Kerala, with a global HDI of 0.625, is in the 'Medium HDI' category. Other major states in this group are Punjab, Himachal Pradesh, Haryana, Maharashtra, Tamil Nadu, Karnataka, Gujarat, West Bengal and Uttarakhand. Nine other states, namely Andhra Pradesh, Assam, Uttar Pradesh, Rajasthan, Jharkhand, Madhya Pradesh, Chhattisgarh, Bihar and Orissa fall in the 'Low HDI' category.

While India is ranked 135 out of 169 countries in the Global HDI, our estimates for different states range from 101 for the state of Kerala (whose Global HDI estimate places it between Philippines and the Republic of Moldova) to 152 for Orissa (whose Global HDI estimate places it between Myanmar and Yemen).

## Conclusions

The HDI was created to emphasize that people and their capabilities should be the ultimate criteria for assessing the development of a country, not economic growth alone. The HDI can also be used to question national policy choices, asking how two countries with the same level of GNI per capita can end up with different human development outcomes. These contrasts can stimulate debate about government policy priorities.

The Human Development Index (HDI) is a summary measure of average achievement in key dimensions of human development: a long and healthy life, being knowledgeable and have a decent standard of living. The HDI is the geometric mean of normalized indices for each of the three dimensions.

Central to the human development approach is the concept of capabilities. Capabilities—what people can do and what they can become—are the equipment one has to pursue a life of value. Basic capabilities valued by virtually everyone include: good health, access to knowledge, and a decent material standard of living. Other capabilities central to a fulfilling life could include the ability to participate in the decisions that affect one's life, to have control over one's living environment, to enjoy freedom from violence, to have societal respect, and to relax and have fun.