



Munich Personal RePEc Archive

## **Human Development Measurement: A broader approach in India**

Sarvalingam, A and Sivakumar, Marimuthu

Chikkaiah Naicker College, Erode, Tamil Nadu, India

5 May 2010

Online at <https://mpra.ub.uni-muenchen.de/22505/>

MPRA Paper No. 22505, posted 05 May 2010 13:47 UTC

**Human Development Measurement: A broader approach in**

**India**

BY

DR.A.SARVALINGAM, M.A, M.PHIL, PH.D,  
ASSOCIATE PROFESSOR OF ECONOMICS,  
CHIKKAIAH NAICKER COLLEGE,  
ERODE-638004.  
TAMILNADU, INDIA.

AND

DR.M.SIVAKUMAR, M.A, M.PHIL, PH.D,  
ASSISTANT PROFESSOR OF ECONOMICS,  
CHIKKAIAH NAICKER COLLEGE,  
ERODE-638004.  
TAMILNADU, INDIA.

## **Human Development Measurement: A broader approach in**

### **India**

How can we measure economic development? Is it in money terms or in human terms? If it is the second one, how can we measure economic development in human aspects? These questions had been asked and argued for several years. Human development concept and its index gives answer for these questions. This aims to depict the concept of human development and its measurement especially in the Indian context.

After the Second World War economic growth and development have occupied a predominant position in the socio-economic aspects. But the emphasis was given to material and money aspects. Economic Growth measured mainly by the money metrics whereas the human sphere almost neglected in the socio-economic measurement. At that period development studies also focused the material aspects only. But economic growth must ultimately benefit human beings. That must be the aim of goal of any kind of socio-economic development.

Income growth is necessary but not sufficient for human development. It is widely assumed that the fruits of economic growth trickled down automatically and benefited the poor masses. Various studies reveals that increase in GDP per capita income and national

income are not have much impact on human life. Increased income should improve people's life but in reality mere income growth have failed to reduce the socio-economic deprivation of poor people and there is no sufficient trickledown effect human development by economic growth. "A country's development is a complex process that advances human capabilities, development and standard of living. The process involves changes in quantitative, qualitative, structural and institutional, temporal, spatial and other type of changes. The growth in income along with disparities-spatial, sectoral and interpersonal represents only one dimension of development. The other dimension includes education, health, gender and quality of life. Thus from the overall development point of view, it is not only income growth, but also human development across regions matters" (Hari.K.S 2004). Economic growth, wealth and income are the means; the end of development must be human well – being. "Human beings are the real end of all activities; development must be centered on enhancing their achievements, freedoms and capabilities. It is the lives the lead that is of intrinsic importance, not the commodities or income that they happen to process. Income commodities ("basic" or otherwise) and wealth do of course have instrumental importance but they do not constitute a direct measure of the living standard itself" (Sudhir Anand & Amartya K.Sen 1994).

## **CONCEPT OF HUMAN DEVELOPMENT**

Human development is much more than the rise or fall of national income. It is about creating an environment in which people can develop their full potential and lead productive, creative lives in accord with their needs and interests. Since people are the real wealth of the nations, development should be about expanding the choices of people have to lead lives that they value. And it is thus about much more than economic growth, which only a means – if a very important one-of enlarging people’s choices.

Human development concept was profound mainly by Amartya Sen and Mahbub-ul-Haq. This concept gives important for human choices, capabilities and values. According to this concept human beings are the getting centre stage in the process of economic development and its distribution aspects. “Rather than concentrating only on some solitary and traditional measure of economic progress (such as gross national product per head), ‘human development’ accounting involves a systematic examination of a wealth of information about how human beings in each society live (including their state of education and health care, among other variables). It brings an inescapably pluralist conception of progress to the exercise of development evaluation. Human lives are battered and diminished in all kinds of different ways, and the first task,

seen in the perspective, is to acknowledge that deprivations of very different kinds have to be accommodated within a general overarching framework” (Amartya K. Sen 2000).

Income concept analyses the growth concept in quantitative aspects where as human development concept gives importance to qualitative aspects. It centers the people’s welfare in its analysis. Human development concept gives much more importance to human lives. According to the human development concept growth in income is necessary but the advancement in human development should be the ultimate end. Development is about enlarging people’s choices by enhancing their functioning and capabilities. Development is of the people, for the people and by the people. The first refers to human capital formation and human resource development through nutrition, health and education. Development for the people stresses that the benefit of economic growth must be translated into lives of people. Development by the people means that people must be able to influence the process which affects their lives. Development must be owned around people and not people around development.

This concept is very much emphasized by United Nations Development Programme. In its 1993 report it said that “human development is the development of the people for the people by the

people. Development of the people means investing in human capabilities, whether in education or health or skills, so that they can work productively and creatively. Development for the people means ensuring that the economic growth they generate is distributed widely and fairly. Development by the people (means) giving everyone a chance to participate” (UNDP HDR 2003).

Development is meaningful if it shifts people from ill-being to well-being with equity. If economic growth is not equally distributed then majority of the people are caught by the vicious circle of poverty. Increasing the average per capita income may not have the desired effect, if it is not equally re-distributed. So, growth with equal distribution is much needed for over all development. There is a shift in the focus of development perspective from a mere expansion of goods and services and the consequent growth in per capita income to planning for enhancement of human well-being. The notion of human well-being itself is more broadly conceived to include, not only consumption of goods and services but also the accessibility of all sections of the population, especially the deprived and those who are living below the normative minimal poverty line, to the basic necessities of a productive and socially meaningful life.

Human development is indeed a very broader concept than GNP approach. Human development analyse the distributional aspects of economic growth. It puts people at the centre of development. According to Amartya Sen and Mahbub ul Haq, “GNP is a measure of the amount of the means of well being that people have, but it doesn’t tell us that the people involved are succeeds in getting out of their means, to their ends and GNP reflects market prices in monetary terms. Those prices quietly register the prevailing economic and purchasing power in the system but they are silent about the distribution, character or quality of economic growth”.

### **DEFINING HUMAN DEVELOPMENT**

Mahbub – ul- Haq, one of the architect and refiner of Human Development concept said that the basic purpose of development is to enlarge people’s choices. People often value achievements that do not show up at all, or not immediately, in income or growth figures: greater access to knowledge, better nutrition and health services, more secure livelihoods, security against income and physical violence, satisfying leisure hours, political and cultural freedoms and sense of participation in community activities. Thus the objectiveness of development is to create on enabling environment for people to enjoy long, healthy and creative lives. Human development is to create on enabling environment for



people to enjoy long, healthy and creative lives. Human development is about people, about expanding their choices to lead lives they value. “Human development is a process of enlarging people’s choices. In principle, these choices can be infinite and change over time. But at all levels of development, the three essential ones are for people to lead a long and healthy life, to acquire knowledge and to have access to resources needed for a decent stand of living”( UNDP HDR 1990).

The reason behind for concentrating on these three basic dimensions of capabilities is if these are achieved then they would open up opportunities in other dimensions of human lives valued by people and these are the most basic capabilities for human development are to lead long and healthy lives, to be knowledge, to have access to the resources needed for a decent standard of living and to be able to participate in the life community activities. If these choices are not available, many opportunities in life remain inaccessible.

Human development approaches look the income aspect in a different way. Income is clearly only one option that people would like to have, but it is not the sum total of their lives. Well-being of a society depends on how and for what purpose the income is being used. Prof. Amartya Sen said that human development, as an approach, is concerned

with what I take to be the basic development idea; namely, advancing the richness of human life, rather than the richness of the economy in which human beings live, which is only a past.

Human development approach concerns about enhancing human capabilities values, choices, freedom and participation in democratic process. It brings together the production and distribution of commodities and the expansion of and use of human capabilities. It denotes both the process of widening people's choices i.e. on what people should have, be and do to be able to ensure their own livelihood and the level of their achieved well being.

Human development concept seeks equity, not only in terms of wealth or income, but also in terms of basic capabilities and opportunities. From this perspective, everyone should have the opportunity to be educated and to lead a long and healthy life. Human development not only concerns with the increased income coming out of the fruits of economic development but also increasing the greater freedom and capabilities, the range of choices and opportunities to enhance the human well being.

According to Amartya Sen the choices that one has are termed "capabilities" and the actual levels of achievement attained in the various

dimensions are called “functioning’s”. Thus human development is given by the enhancement of the set of choices or capabilities of individuals, whereas functioning’s are a set of ‘beings’ and ‘doings’ for example, the level of education, the state of health and the extent of participation in the political process.

“Human development has two sides: the formation of human capabilities such as improved health, knowledge and skills – and the use people make of their acquired capabilities – for leisure, productive purposes or being active in cultural, social and political affairs”( UNDP HDR 1990).

### **HUMAN DEVELOPMENT INDEX**

Measuring country’s development with the help of national income and / or per capita income has been widely criticised and there has been perpetuated attempt to identify an alternative indicator which would cover all the aspects of development. “There has been a long search for a more comprehensive measure of development that could capture all, or many more, of the choices people make a measure that would serve as a better yard stick of the socio-economic progress of nations” (Mahbub ul Haq 2003).

United Nations Development Programme in its 1990's Human Development Report introduced a new index i.e. Human Development Index. It is a different type of indicator which is drawn by merging of economic and social indicators. "Human Development Index measures a country's achievements in three aspects of development, they are, longevity is measured by life expectancy at birth, knowledge is measured by a combination of the adult literacy rate and the combined gross primary, secondary and tertiary enrolment ratio, and standard of living is measured by GDP per capita (PPP US \$). "The human development index (HDI) is a composite indicator. It covers three dimensions of human welfare: income, education and health. Its purpose is not to give a complete picture of human development but to provide a measure that goes beyond income. The HDI is a parameter for changes in human well – being and for combining progress in different regions" (UNDP HDR 2005).

It is not only focused income aspect but also social aspects. It is broaden the assessment of development. Human Development Index is a measure of average achievement in basic human capabilities. It combines three elements viz, access to income and assets needed for a decent standard of living, knowledge acquisition, and enjoyment of a long and healthy life. "The Human Development Index (HDI), introduced in 1990

by Mahbub ul Haq and colleagues, reflects achievements in ‘the most basic human capabilities leading a long life, being knowledgeable, and enjoying a decent standard of living’ that can be represented as health, education, and income, which are indeed the three pillars of human development” (WHO 2002). Human development index measures the lack of human capabilities. Capabilities, by definition, cannot be directly measured, but the functioning can be measured, for example, the achievements in each dimension both at the individual (household) and at the national level. These achievements are generally identified by proper indicators reflecting the performance in the associated dimension. There could either be one indicator, or as is more often the case, a whole range of indicators available for each capability dimension. In other words, one normally has a vector of functioning’s rather than a scalar indicator corresponding to each domain.

### **COMPUTING HUMAN DEVELOPMENT INDEX- UNDP’s APPROACH**

There is an assumption that the income of a society reflects all its other achievements. But in reality, there is no automatic translation of the income of a society into the people’s welfare. That is the primary reason for inequality among people. Hence, there is a need for different indicator which could cover both social and economical aspects of people. Human development index is based on social and economic aspects. The

conventional measure of well-being such as GDP or per capita income and even their distributionally sensitive variants are inherently limited in capturing these under aspects of well-being and the contingent process of development. The GDP or income, in general, is a means perhaps the most predominant one in obtaining valued outcome in the course of development. On the other hand, the human development indicators are most appropriate in capturing desirable ‘outcomes’ for which the ‘means’ are ultimately engaged in the process of development.

Human development index is based on three indicators: longevity, as measured by life expectancy at birth, education attainment, as measured by a combination of adult literacy (two-third weight) and combined primary, secondary and tertiary enrolment ratios (one-third weight) and standard of living, as measured by real GDP per capita (PPP \$).

For the construction of the index, fixed minimum and maximum values have been established for each of these indicators:

- |                                   |   |                       |
|-----------------------------------|---|-----------------------|
| 1. Life expectancy at birth       | : | 25 years and 85 years |
| 2. Adult literacy                 | : | 0% and 100%           |
| 3. Combined gross enrolment ratio | : | 0% and 100%           |
| 4. Real GDP per capita (PPP \$)   | : | \$100 and \$40,000    |

Performance in each dimension is expressed as a value between 0 and 1 by applying following general formula:

$$\text{Dimension index:} \quad \frac{\text{actual value} - \text{minimum value}}{\text{maximum value} - \text{minimum value}}$$

The HDI is a simple average of the life expectancy index, educational attainment index and adjusted real GDP per capita (PPP \$) index, and so it is derived by dividing the sum of the three indices by 3.

$$\text{HDI} = 1/3 (\text{life expectancy index}) + 1/3 (\text{education index}) + 1/3 (\text{GDP index}).$$

Then the countries are ranked according to their HDI value. Countries with 0.800 and above HDI value are considered as high HDI countries, countries having HDI value between 0.500-0.799 are considered as medium HDI countries and countries having below 0.500 HDI value are considered as low HDI countries.

### **HUMAN DEVELOPMENT APPROACH in INDIA**

In 2001, the Planning Commission of India released its human development report i.e., National Human Development Report (NHDR). It developed its own State-wise human development index. India's human development index is slightly different from UNDP's human development index. India included few more variables to arrive human

development index. Like UNDP, India also assessed the same three dimensions of human development, they are, longevity- the ability to live long and healthy life, education- the ability to read, write and acquire knowledge and command over resources-the ability to enjoy a decent standard of living and have a socially meaningful life but to measure the human development it look few more indices for assessment. While choosing the indicators, UNDP consider only life expectancy at birth for the measurement of longevity, whereas, India has chosen life expectancy at birth at age one and the reciprocal of the infant mortality rate and 0.65 weightage has given for the life expectancy at birth at age one and 0.35 weightage has given for the reciprocal of the infant mortality rate.

For the calculation of education index (knowledge) UNDP is being used adult literacy rate (one-third weightage) and adjusted intensity of formal education (0.65 weightage). But India has utilized literacy rate for the age group 7 years (0.65 weightage) and adjusted intensity of formal education (0.35) weightage.

The standard of living is measured by real GDP per capita (PPP US \$) by the UNDP. India, on the other hand, has used inflation and inequality adjusted per capita consumption expenditure for the



measurement of economic attainment. By the inclusion of these sensitive indicators, India has broadened the HDI measurement.

According to UNDP HDI measurement, India's HDI value was 0.309 in 1990 and 0.590 in 2001 but according to the National Human Development Report of Planning Commission, India, the HDI value of India was 0.381 in 1991 and 0.472 in 2001. It seems that according to India's HDI calculation method, India is very much lagged in HDI in 2001 than the UNDP's calculation, but this is mainly because of the inclusion of more sensitive indicators like infant mortality and inequality adjusted per capita consumption expenditure.

### **INDIA'S HDI FORMULA**

$$HDI_j = 1/3 \times \sum_1^n (x_i)$$

$j$  is the concern State taken for the assessment

$i$  refer to three indicators. They are longevity, educational and economic attainment.

$$x_i = \frac{(x_{ij} - x_i^1)}{(x_i^2 - x_i^1)}$$

where,  $x_{ij}$  refers to attainment of the state on the  $i$  th indicator,

$x_i^1$  is the minimum scaling norms and

$x_i^2$  is the maximum scaling norms

$x_1$  is inflation and inequality adjusted per capita consumption expenditure,

$$x_2 \text{ is } (e_1 \times 0.35) + (e_2 \times 0.65)$$

where,

$e_1$  is literacy rate for the age group 7 years

and  $e_2$  is adjusted intensity of formal education.

$$x_3 = (h_1 \times 0.65) + (h_2 \times 0.35)$$

where,

$h_1$  is life expectancy at age one and

$h_2$  is the reciprocal of the infant mortality rate.

The scaling norms used for the assessment are, for per capita consumption expenditure per month, the minimum norms Rs.65 and the maximum was Rs.325 for literacy rate 7+ years, the minimum norms was 0 and the maximum was 100, for adjusted intensity for formal education, the minimum norms was 0 and the maximum was 7, for life expectancy at age one, the minimum norms was 50 years and the maximum was 80 years and for infant mortality rate only minimum norms was used i.e. 20 per 1000.

Based on this HDI formula, Human Development Index has been estimated for the States and Union Territories for the periods of 1981, 1991 and 2001.

Table No: 1

HDI of India for 1981, 1991 and 2001 for Major States.

Sl.NO	States	1981		1991		2001	
		HDI Value	HDI Rank	HDI Value	HDI Rank	HDI Value	HDI Rank
1	Kerala	0.500	1	0.591	1	0.638	1
2	Punjab	0.411	2	0.475	2	0.537	2
3	Tamil Nadu	0.343	7	0.466	3	0.531	3
4	Maharashtra	0.363	3	0.452	4	0.523	4
5	Haryana	0.36	5	0.443	5	0.509	5
6	Gujrat	0.36	4	0.431	6	0.479	6
7	Karnataka	0.346	6	0.412	7	0.478	7
8	West Bengal	0.305	8	0.404	8	0.472	8
9	Rajasthan	0.256	12	0.347	11	0.424	9
10	Andhra Pradesh	0.298	9	0.377	9	0.416	10
11	Orissa	0.267	11	0.345	12	0.404	11
12	Madhya Pradesh	0.245	14	0.328	13	0.394	12
13	Uttar Pradesh	0.255	13	0.314	14	0.388	13
14	Assam	0.272	10	0.348	10	0.386	14
15	Bihar	0.237	15	0.308	15	0.367	15
	INDIA	0.302		0.381		0.472	

Source: NHDR 2001, Govt of India.

From the table it is clear that Kerala was the number one State in human development in 1981(0.500), 1991(0.591) and 2001(0.638). Punjab followed that with 2<sup>nd</sup> position in 1981(0.411), 1991(0.475) and 2001(0.537). Tamil Nadu was at 7<sup>th</sup> position in 1981(0.343) but improved its position to 3<sup>rd</sup> in 1991(0.466) and 2001(0.531). Maharashtra was at the 3<sup>rd</sup> place in 1981(0.363) but slipped to 4<sup>th</sup> place in 1991(0.452) and 2001(0.523). Haryana was at 5<sup>th</sup> place in 1981(0.360), 1991(0.443) and 2001(0.509) also.

Bihar was at 15<sup>th</sup> place with very low HDI value. It occupied that position in all the years in 1981(0.237), 1991(0.308) and 2001(0.367). Assam was at 10<sup>th</sup> place in 1981(0.272), 1991(0.348) and then slipped towards 14<sup>th</sup> place in 2001(0.386), this is very poor performance. Uttar Pradesh was occupied 13<sup>th</sup> place in 1981(0.255), 1991(0.314) and 2001(0.388). Madhya Pradesh was at 12<sup>th</sup> position in 2001(0.394) but comparing with 1981(0.245) and 1991 (0.328) it was an improvement because it was at 14<sup>th</sup> place in 1991 and 13<sup>th</sup> in 2001. Orissa was oscillating between 11<sup>th</sup> and 12<sup>th</sup> position in 1981(0.267), 1991(0.345) and 2001(0.404).

Gujrat, Karnataka, West Bengal, Rajasthan and Andhra Pradesh were at middle position at 6<sup>th</sup>, 7<sup>th</sup>, 8<sup>th</sup>, 9<sup>th</sup>, and 10<sup>th</sup> position respectively. Their HDI values were 0.479, 0.478, 0.472, 0.424 and 0.416 respectively in 2001. The HDI values of India were 0.302 in 1981, 0.381 in 1991 and 0.472 in 2001.

## **CONCLUSIONS**

The National Human Development Report of India covers much more wider and sensitive indicators than the UNDP for the measurement of HDI. India's NHDR has computed State-wise human development index, this helps to indentify the most backward States in India in human development aspects. Not only that, the NHDR induces the State Governments in India, for the publication of their own human development report. In the State Human Development Reports, the HDI measure has analyses very deeply the backwardness of the States' socio-economic status and the district-wise HDI have also been developed, by thus, the process of computing HDI at micro level have also been carried out in India.

## REFERENCES

Amartya K. Sen (2000), "A Decade of Human Development", Journal of Human Development, Volume 1, Pp 17-23. .

Government of India (2001), "National Human Development Report 2001", Planning Commission of India, New Delhi.

Hari K.S. (2004), "Economic Growth and Human Development, Empirical Evidence from Indian States", Centre for Development Studies, Thiruvananthapuram.

Sudhir Anand and Amartya K. Sen (1994), "Human Development Index: Methodology and Measurement", United Nations Development Programme, New York.

Ul Haq, Mahbub. (2003), "The Birth of Human Development Index" Pp. 127-137 in Readings in Human Development, Edited by Sakiko Fududa-Parr and A.K.Shiva Kumar, Oxford University Press, Oxford.

UNDP (1990), "Human Development Report 1990: Concept and Measurement of Human Development", United Nations Development Programme, New York.

UNDP (1995), "Human Development Report 1995: Gender and Human Development", United Nations Development Programme, New York.

UNDP (1997), "Human Development Report 1997: Human Development To Eradicate Poverty", United Nations Development Programme, New York.

UNDP (2002), "South Asia Human Development Report 2002", UNDP, New Delhi, INDIA.

UNDP (2003), "Human Development Report 2003: Millennium Development Goals: A Compact among Nations to End Human Poverty", United Nations Development Programme, New York.

UNDP (2005), "Human Development Report 2005", United Nations Development Programme, New York.

UNDP (2006), "Human Development Report 2006: Beyond scarcity: Power, poverty and the global water crisis", United Nations Development Programme, New York.

WHO (2002), "Health, Economic Growth and Poverty Reduction",  
Commission on Macroeconomics and Health, World Health  
Organization, Geneva.