UNIVERSITY OF MUMBAI

DEPARTMENT OF ECONOMICS

BEYOND THE HUMAN DEVELOPMENT INDEX
PRELIMINARY NOTES ON DEPRIVATION AND INEQUALITY

By

Sangita Kamdar

Asoke Basak

Working Paper UDE 12/8/2003

November 2003

Department of Economics
University of Mumbai
Vidyanagari, Mumbai 400 098

Documentation Sheet

Title:

Beyond the Human Development Index
Preliminary Notes on Deprivation and Inequality

Author(s):	External Participation:
Sangita Kamdar	Asoke Basak
WP. No.: UDE 12/8/2003	Contents: 22P, 2T, 1F, 13R
Date of Issue: November 2003	No. of Copies: 100

Abstract

The paper is a preliminary attempt to examine the human development scenario in Maharashtra. Its starting point is the Human Development Index, which indicates average levels of attainment in three dimensions of development. The paper attempts to go further than what is suggested by the Human Development Index and examine the deprivation dimensions in the context of the state of Maharashtra and incorporate them into the Human Poverty Index for the districts of Maharashtra. An attempt has also been made to define the Human Development Backlog.

Key Words: Human Development, Human poverty

JEL Code (s): 131

BEYOND THE HUMAN DEVELOPMENT INDEX
PRELIMINARY NOTES ON DEPRIVATION AND INEQUALITY

By

Sangita Kamdar

Asoke Basak

I Introduction

The paper is a simple attempt to examine the human development scenario beyond the use of the Human Development Index (HDI) with special reference to Maharashtra. The Government of Maharashtra has taken the lead to initiate work in this research area by publishing the *Maharashtra Human Development Report* in 2002. Further work at the district level has also been initiated. Alongside the government has been interested in highlighting the nature of development as to whether the development process has been egalitarian in its approach and reach. Hence, steps were taken to develop a Social Justice Index. It is in this context that this paper has been formulated. It is a preliminary attempt at examining the attainment, deprivation and equality (or disparity) dimensions of the development processes in the state.

The paper has been divided into the following sections. The next sections discuss the Human Development Index (HDI) and its limitations. This is followed by a discussion on the various 'outcome' or 'attainment' indicators which are relevant in the context of Maharashtra and which need to be taken into consideration while discussing development processes (Section IV). Examination of human development indicators from the deprivation perspective led us to the calculation of the Human Poverty Index (HPI) for the districts of Maharashtra which has been discussed in Section V. Concluding remarks follow which also outline the concept of the Human Development Backlog.

II The Human Development Index (HDI)

Human Development

Human development has been defined as the process of 'enlarging the range of people's choices' (UNDP, 1990, p. 10). Acquisition of knowledge, the need to lead a long and healthy life and the need to have access to resources required for a decent standard of living have been identified as three essential choices for the attainment of human development. Additional choices valued by people include political, economic and social freedom to opportunities for being creative and productive, and enjoying personal self-respect and guaranteed human rights. 'Development must, therefore, be more than just the expansion of income and wealth. Its focus must be people' (UNDP. 1990, p. 10).

The genesis of the term human development as popularized by the UNDP may be found in the writings of the Nobel laureate, Amartya Sen and Mahbub ul Haq. The process of economic development can be seen as a 'process of expanding the capabilities of people' (Sen, 1984, p. 497). 'Capabilities' refer to the alternative combinations of functionings the person can achieve, and from which a person can chose a collection. The notion of freedom is embodied in the term 'capabilities' – the range of options a person has in deciding what kind of a life to lead (Sen, 1987, 1992, 1993). The introduction of ethical considerations has been the hallmark of this approach.

Human Development Index (HDI)

The Human Development Index (HDI) is a tool used to measure the non-income dimensions of the quality of life. It is a composite index of three basic components of development: longevity, knowledge and income. Longevity is represented by life expectancy at birth, which indicates capability of leading a long and healthy life. Educational attainment is weighted average of two educational stock variables: adult literacy and average years of schooling with 2/3rd weightage given to the former and 1/3rd weightage to the latter. Educational attainment refers to the capability of acquiring knowledge for communication and participating in community life. Income is adjusted using Atkinson's formulation of the utility function. It indicates the capability of people to enjoy goods and services.

$$W(y) = \frac{1}{(1-e)} y^{(1-e)}, e < 1$$

The parameter e is the elasticity of the marginal utility of income and measures the extent of diminishing returns. When e = 1, *W* takes the logarithmic form.

Before the HDI itself is calculated, an index needs to be calculated for each of these dimensions. To calculate these dimension indices –life expectancy, education and GDP indices – minimum and maximum values (goal posts) are chosen for each underlying indicator. Performance in each dimension is expressed as a value between 0 and 1 by applying the following formula:

$$\text{Dimension Index} = \frac{\text{actual value} - \text{minimum value}}{\text{Maximum value} - \text{minimum value}}$$

The HDI is then calculated as a simple average of the dimension indices.

Limitations

The HDI has been subject to criticism from several angles. The index does not provide any indication as to whether attainment in education, health and purchasing power has lead to any improvement in the quality of life. The term 'human development' as envisaged by the UNDP included along with attainment in education, health and standard of living, choices ranging from political, economic and social freedom to opportunities for being creative and productive, and enjoying self-respect and guaranteed human rights. The term implied the formation of capabilities such as improved health, knowledge and skills and the use made of these acquired capabilities for leisure, productive purposes and being active in cultural, social and political affairs. However, the index provides no indication of improvement in well-being.

The HDI is a linear measure of deprivation. So, a particular country is considered low in human development because its achievement is below that attained by the top performer. An improvement in the performance level of the lowest performing country will cause the index for all other countries to drop. A similar effect occurs when the top performing country improves its performance. More important, the HDI measures

attainment at a point in time. It is often necessary and interesting to study the pattern of improvement (or decline) in human development attainment over time.

It may also be pointed out that there are several other dimensions of development which do not find mention in the HDI. The social and cultural context of the society needs to be taken into account while discussing the human development scenario.

III The Case of Maharashtra

The HDI for the Districts of Maharashtra

The Human Development Index for the districts of Maharashtra[1] using the UNDP methodology for the year 2000 highlights the backwardness of the districts of Marathwada and Vidarbha. The results have been presented in Table 1. The results point out that the HDI value for the state is 0.58. Only the districts of Mumbai (including Mumbai Suburban), Thane, Raigad, Sindhudurg, Pune, Satara, Sangli, Kolhapur and Nagpur are above the state average. Except for Nagpur the rest of the districts belong to the western part of the State including Mumbai, Konkan and Western Maharashtra. The districts with high HDI values like Mumbai, Thane, Pune, Raigad, Sangli, Kolhapur, Sindhudurg and Satara have ranks ranging from 1 to 10. Only the fifth rank is occupied by Nagpur, a district not belonging to these regions.

While it may be said that the Western parts of the state are more developed than those that lie on the Eastern side, there are certain districts within Western Maharashtra that are backward. The tribal districts of Dhule and Nandurbar have recorded low values and ranks on the HDI. Nandurbar has an HDI value of 0.28.

[1] It may be noted that health has been represented by infant mortality rate as data for life expectancy is not available at the district level.

Table 1: Human Development Index and Per-Capita District Domestic Product

No.	District	HDI 2000	Rank	PCDDP (Rs.) 1998-99	Rank
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1	Mumbai	1.00	2	45471	1
2	Mumbai (Subn.)	1.00	1	45471	2
3	Thane	0.82	3	33200	3
4	Raigad	0.70	6	30364	4
5	Ratnagiri	0.44	22	14354	25
6	Sindhudurg	0.60	9	20016	10
7	Nashik	0.51	13	20636	8
8	Dhule	0.36	30	11789	34
9	Nandurbar	0.28	32	11789	35
10	Jalgaon	0.50	14	16449	17
11	Ahmednagar	0.57	11	15251	22
12	Pune	0.76	4	28000	6
13	Satara	0.59	10	15563	20
14	Sangli	0.68	7	20411	9
15	Solapur	0.48	17	18097	13
16	Kolhapur	0.64	8	20925	7
17	Aurangabad	0.57	12	19365	11
18	Jalna	0.27	33	12047	33
19	Parbhani	0.43	24	13827	26
20	Hingoli	0.43	25	13827	27
21	Beed	0.47	18	15303	21
22	Nanded	0.37	29	13068	31
23	Osmanabad	0.38	28	12905	32
24	Latur	0.47	19	13677	29
25	Buldhana	0.41	27	13823	28
26	Akola	0.44	23	16069	18
27	Washim	0.36	31	16069	19
28	Amravati	0.50	15	17168	14
29	Yavatmal	0.22	34	13382	30
30	Wardha	0.49	16	16952	16
31	Nagpur	0.71	5	28878	5
32	Bhandara	0.46	20	14467	23
33	Gondiya	0.46	21	14467	24
34	Chandrapur	0.41	26	19325	12
35	Gadchiroli	0.21	35	17140	15
Maharashtra		0.58		22763	

Source : PCDDP : Directorate of Economics and Statistics, 2001, District Domestic Product of Maharashtra 1993-94 to 1998-99, Government of Maharashtra, Mumbai

Empirical analysis has highlighted that the districts of Marathwada are the *most* backward amongst all the districts of the state of Maharashtra. All the districts of this region are below the state average. The value of the HDI is lowest for Jalna at 0.27 and the highest for Aurangabad at 0.57 in this region. Corresponding to these low values the ranks are low ranging between 12 for Aurangabad and 33 for Jalna. There exist intra - district disparities in human development attainment with Aurangabad being the only district with a HDI value of 0.57 and the rest of the districts having values ranging from 0.27 to 0.47.

All districts of Vidarbha are also below the state average HDI. The only exception in this region has been Nagpur with an HDI value of 0.71 and a high rank of 5. The districts of Amravati and Wardha are more developed as compared to the other districts of the state with values of the HDI at 0.50 and 0.49 and are correspondingly ranked 15th and 16th respectively. The rest of the districts are backward with HDI values ranging from as low as 0.21 for Gadchiroli (which is the lowest HDI value amongst all the districts of Maharashtra) and 0.22 for Yavatmal to 0.46 for Bhandara.

What needs to be noted is that Mumbai not only occupies the first rank but that the difference in the value of the HDI for this metropolitan city and the rest of the districts of the state is stark. This may be partly explained by the high per capita income of the city. The analysis has brought into focus the sharp difference between attainment levels in social sectors in Mumbai and the rest of the districts of the state. Regional disparities have been a historical legacy of the state. The HDI shows that regional disparities continue despite government efforts to mitigate them. The high value of the HDI for Mumbai pushes up the average HDI of the state.

IV OTHER INDICATORS OF DEVELOPMENT

The Maharashtra Human Development Index takes into consideration several dimensions of development. However, there are certain other disturbing facets of the development process of the state that need to be taken into consideration while discussing the human development scenario in the state. These are 'outcome' or 'attainment' indicators and need to be distinguished from 'input' or 'process' indicators. It may be noted that the indicators which are taken into consideration for the construction of the HDI are 'outcome' indicators.

Poverty

The higher growth rate in real per capita SDP has not translated into a faster reduction in poverty in Maharashtra. In 1999-2000, the state had 25.02 percent of total population below the poverty line. In absolute terms, 23 million people were living below the poverty line in 1999-2000. The State has been successful in reducing the percentage of people living below the poverty line from 43.44 per cent in 1983 to 36.86 per cent in 1993-94 to 25.02 per cent in 1999-2000. However, comparison with the state of Kerala reveals that the latter has been able to reduce poverty substantially more than what has been achieved in Maharashtra. In 1983, the percentage of population below poverty line was around 40 percent in Maharashtra and Kerala, a socially advanced state. While Kerala was able to bring down poverty levels to 13 per cent in 1999-2000, Maharashtra was able to bring down poverty to 25 per cent in 1999-2000. The number of poor has been reduced from 11 million in 1983 to 4 million in 1999-2000 in Kerala. However, the number of poor is disturbing in Maharashtra at 23 million (GoI, 2002c).

Changes in poverty levels in different states revealed that other states including Kerala (12.71), Haryana (16.31), Bihar (12.36), Himachal Pradesh (20.81), Karnataka (13.12), Rajasthan (12.13) and Tamil Nadu (13.91) experienced a sharper reduction in poverty levels (a drop of more than 12 percentage points) between 1993-94 and 1999-2000 while Maharashtra witnessed a drop of 11.84 percent in the same period (ibid).

Projections for poverty in different states for the year 2006-07 indicate that poverty ratios are set to decline in Maharashtra. Projected poverty ratios indicate that the percentage of poor is likely to decline to 16.18 percent in 2006-07. This would mean 174 lakh or 17 million people are poor even in the 21st century in this state. Moreover, there are several high and medium income states, which have projected poverty ratios lower than that of Maharashtra. States like Gujarat, Haryana, Himachal Pradesh and Punjab have projected poverty ratios of only 2 percent of population while Kerala is expected to have 3.61 percent, Andhra Pradesh 8.49 percent, Karnataka 7.85 percent and Tamil Nadu 6.61 percent of population as poor. On the indicator ‘poverty’, the performance of the state of Maharashtra is closer to several of the less developed states of the country (GoI, 2002b).

Poverty measures sensitive to the distribution of the poor population below the poverty line, Poverty-Gap Index (PGI) which reflects the depth of poverty and the Squared Poverty Gap (FGT*) which reflects the severity of poverty, for the 1990s, indicated that while the depth and severity of poverty has reduced in the state, it nevertheless remains a disturbing fact that population-weighted PGI and FGT* indices are high and closer in value to several backward states of the country including Bihar and Orissa (Sundaram and Tendulkar, 2003).

The PGI (for the Mixed Reference Period) for rural population fell from 0.1283 in 1993-94 to 0.0867 in 1999-2000. Amongst 15 major states, Maharashtra had the 4th highest value on this index with Orissa (0.1478), Assam (0.1236), and Bihar (0.1099) recording higher values than Maharashtra in 1999-2000. The FGT* fell from 0.0475 in 1993-94 to 0.0285 in 1999-2000 for rural population. However, in 1999-2000, the state had the 3rd highest value on this index with Orissa recording a value of 0.0534 and Bihar a value of 0.0335. For the urban areas, the PGI for the MRP fell from 0.0838 in 1993-94 to 0.0641 in 1999-2000 with Bihar (0.1061), Punjab (0.1040), Madhya Pradsh (0.0968) and Uttar Pradesh (0.0699) recording higher values than Maharashtra. The FGT* for urban areas fell from 0.0324 in1993-94 to 0.0227 in 1999-2000 with Bihar (0.0357), Orissa (0.0362) and Madhya Pradesh (0.0338) recording higher values.

Employment

In the 1990s, employment has fallen from 2.2 percent per annum in 1983 to 1993-94 to 1.0 percent in 1993-94 to 1999-2000. In most states, employment has fallen except in Punjab, Bihar, Assam, Gujarat, Kerala, where it has increased at a higher rate or the same rate in the period 1993-94 to 1999-2000 over 1983 to 1993-94. The deceleration in the growth rate of employment has been higher for females than males in this period. In Maharashtra, the growth rate has been in fact been negative. A similar pattern is not observed for other states. The per annum growth rate of employment declined from 2.1 percent to 1.8 percent for males and from 2.3 percent to -0.2 percent for females in the period 1983 - 1993-94 to 1993-94 - 1999-2000 respectively. Growth in employment has declined from 1.9 percent per annum in 1983 to 1993-94 to 0.6 percent in 1993-94 to 1999-2000 in rural areas and from 2.9 percent to 1.9 percent in urban areas in the same time period. Negative growth rates in employment observed for females in rural and urban areas in the period 1993-94 to 1999-2000. (Government of India, 2002a).

Informalisation of Employment

The structure of the economy is undergoing major changes. The primary sector's contribution has declined by 6 percent, from 21 percent to 15 percent while the share of the tertiary sector has registered an increase of 8 percent from 47 percent to 55 percent, 1993-94 to 2000-01. The tertiary sector accounts for a large and growing share of the state income.

The pattern of employment indicates that the percentage of cultivators in total population has declined to 29 percent in 2001 from 34 percent in 1991 and agricultural labor declined from 28 percent to 27 percent in the same period. A shift in the labor force from agricultural sector to other sectors is evident. Yet, a very large percentage of the workforce, about 55 percent depends on agriculture for livelihood and contributes only 15 percent to the state income.

With the growth of the tertiary sector, employment in this sector has also been rising. This growth is mainly in the unorganized sector. These endeavors in the unorganized sector are in the field of small and medium enterprises and in various kinds of services. In Maharashtra, they contribute about 56 percent of state income and about 85 percent of employment. However, employment in this sector lacks sustainability, the ability to exploit income adequately and social security. The emerging areas in the tertiary (services) sector are trade, hotels and restaurants; transport, storage and communications; financial, insurance, real estate and business services; and community, health and social services.

Educated Unemployed

The incidence of unemployment defined as the percentage of persons unemployed in the age group 15 years and above on the usual principal and subsidiary status to the total number of persons in the labor force reveals the growing problem of unemployment in the State.

There are several states, which have recorded lower rates of unemployment than Maharashtra. The percentage of labour force unemployed was 2.9 in Maharashtra which makes it the 4th highest state with unemployment rate after Kerala, Assam and West Bengal across major Indian states in 1999-2000. Unemployment rates in Maharashtra

are higher than all-India levels and several low income states like Madhya Pradesh, Orissa, Rajasthan and Uttar Pradesh.

There is the added problem of educated unemployed with growing numbers of educated job seekers on live registers of employment exchanges. The development of secondary and tertiary sectors in the state has not keep pace with rising levels of education and expectations.

Nutrition

Maharashtra is known to be a state which has not fared well on the nutrition front. 57.4 per cent of households in rural areas and 54.8 per cent in urban areas consume less than the standard 2,700 calories per day. Adequate level of calorie intake i.e. the actual average calorie intake ranging between 90 per cent to 110 per cent is reported by only about a quarter of all households in the rural and 28 per cent in the urban areas. Only 17 per cent of the households in the rural and urban areas respectively reported more than adequate levels of calorie intake (Government of Maharashtra, 2002).

Low level of food intake affects the nutritional status of women and children. Nearly half the ever-married women between 15 and 49 years suffer from anemia, which is marginally higher in the rural areas at 51.2 per cent while it was 44.8 per cent in the urban areas. Incidence of undernourishment of children (below two years of age) on the indicator weight for age, below 3 SD was 15.9 percent (severely undernourished) while it was 40.6 percent on the indicator weight for age, below 2SD (ibid).

The problem is acute in Maharashtra with several districts having sizeable tribal population. Tribal deaths due to malnourishment or undernourishment are not uncommon in Maharashtra. There are several cases of the deaths and severe malnutrition reported from the tribal and backward areas of the state.

Concepts of prevention of communicable diseases and nutritional deficiencies and the use of modern medicine have been identified as important factors leading to higher incidence of under and malnourishment and mortality. Health workers working amongst the tribal trace the non-utilization of health services by the tribal population to traditional beliefs and superstitions. Cultural alienation of health care providers including doctors,

nurses, MPWs, and the alien design and culture of health care institutions like hospitals and PHCs have been cited as another impediment to increased utilization of health care facilities (Bang, undated).[2]

Drop out rate

Literacy rate (the proportion of literates to total population in the age group 7 years and above) in 2001 was 77.27 per cent making it the state with the second highest level of literates amongst the major states of India and next only to Kerala and above the all-India average of 65.20 per cent (GoI, 2002a). However, the difference between Kerala's 90.92 per cent literacy rate and Maharashtra's 77.27 per cent literacy rates is worth noting. The adult literacy rate (the number of literate in age-group 15 years and above to population in that age group) was 66.82 per cent in Maharashtra while it was higher at 89.47 per cent n Kerala (ibid).

Based on the National Family Health Survey data, 1992-93, Filmer and Pritchett (1998) as cited in World Bank (1998) have calculated the proportion of 6 to 14 year olds who are currently 'in school' by economic group. In Maharashtra, on an average 82 percent of 6 to 14 year olds are currently in school while in Kerala the corresponding figure was 95 per cent. While in Maharashtra the proportion of 6 to 14 year old currently enrolled in school are equitably distributed than the All-India distribution, it is not equitable as compared to Kerala. In Maharashtra, 67.1 per cent of the bottom 40 per cent while 96.2 per cent of the top 20 per cent of the 6 to 14 year olds are currently enrolled in school. In Kerala, 88.7 per cent of the bottom 40 per cent are currently enrolled in school. The wealth gap in Maharashtra at 29.0 is almost three times that of Kerala's 8.8. There is a 29 per cent point higher likelihood that a child aged 6 to 14 from a rich rather than a poor household will be in school.

Simulated flow of 100 children through elementary schooling by economic group shows that in Maharashtra, 98 per cent of 15 to 19 year olds from rich households completed

[2] This survey conducted in Gadchiroli by the non government organization SEARCH (Society for Education, Action and Research in Community Health) led by Rani Bang shows infant mortality in tribal areas in Vidarbha to be at least twice as large as the one reported by the health department at 100 per 1000 live births. Health education and infection management has brought infant mortality down to half while long term measures at reducing malnutrition need to be undertaken on an urgent basis (Bang, undated).

grade 1 but only 59 per cent of those from poorer households did so. In other words, four out of 10 either never crossed the threshold of a classroom or left without finishing their first year. In Kerala, one observes that almost all students who enroll are likely to finish grade 1 irrespective of their economic class. 83 percent of the children from rich households finished grade 8 as opposed to only 28 percent of the poorer households, the end of the cycle of basic education in Maharashtra (World Bank, 1998). It may be inferred that not only is enrolment low in poorer households, they are also likely to leave before completing either primary or basic education. To the extent, students from poorer families do not enroll or drop out without completing basic education they lose the opportunities in terms of the subsidies offered by the government.

Social Factors

The state of Maharashtra can boast of several 'first women' eg the first lady doctor or the first lady teacher or the first lady lawyer in the country. However, at the grassroot level, girls are married at a very early age, the son preference is strong…….amongst others. It is difficult to get data on these aspects of development. However, data is available on the indicators child sex ratio and the percentage of girls married below 18 years of age.

Of the ten districts with high ranks on the HDI, there are five districts with adverse sex ratio. These districts are Satara, Pune, Ratnagiri, Sangli and Kolhapur. In fact they belong to the lowest ten districts on the sex ratio. At the same time, five districts out of the ten top ranking HDI districts have a low percentage of girls getting married below the age of 18 years. This unfortunately seems to indicate that a higher age of marriage of girls is not a remedy for sex discrimination at birth. The malaise seems to be in the social complexity prevailing in these districts.

V Human Poverty Index (HPI)

Human Poverty Index

Keeping in mind the above mentioned indicators of development, it was considered necessary to construct an index which would reflect these dimensions of development in Maharashtra. The Human Development Report 1997 popularized the concept of the

Human Poverty Index in an attempt to examine the human development from the angle of deprivation. While the HDI measures average achievement, the HPI measures deprivations in the three basic dimensions of human development captured in the HDI.

- ◊ A long and healthy life – vulnerability to death at a relatively early age as measured by the probability at birth of not surviving to age 40. (P_1)

- ◊ Knowledge – exclusion from the world of reading and communications as measured by the adult illiteracy rate. (P_2)

- ◊ A decent standard of living – lack of access to overall economic provisioning as measured by the unweighted average of 2 indicators – the percentage of population without sustainable access to an improved water source and the percentage of children underweight for age (UNDP 2003). (P_3)

Calculating the HPI is more straightforward than the HDI. The indicators used to measure deprivation are normalized between 0 and 100 (as they are expressed as percentages). So there is no need to create dimension indices as for the HDI.

Originally the measure of deprivation in a decent standard of living also included an indicator of access to health services. But this has been dropped in the Human Development Report 2003 and is now represented only by the percentage of population without sustainable access to an improved water source and the percentage of children underweight for age.

$$HPI = \frac{1}{3} \left(P_1^3 + P_2^3 + P_3^3 \right)^{1/3}$$

The Human Poverty Index takes into account 'output (attainment)' and 'input' indicators. While not expected to live upto the age of 40 and illiteracy are 'output' indicators, the indicator lack of access to overall economic provisioning is an 'input' indicator.

The Human Poverty Index for the districts of Maharashtra (1993-94 – 1998-99) has been constructed using the UNDP methodology (UNDP, 1997) taking into consideration only the output or attainment indicators. The distinction between 'output' and 'input' indicators is necessary from the policy – making point of view. Output or attainment indicators reflect the status of the population in that particular dimension of development. Eg life expectancy is an outcome indicator of the health status of the population indicating the number of years a person is expected to survive at age one or at the time of birth. Access to health services is an input indicator or process indicator as it contributes to higher life expectancy. This distinction is important from the point of view of policy-making as it highlights the variables which need monitoring.

Indicators used in the HPI for Maharashtra

The drop-out rate per 100, 1998-99, has been used as an indicator of children not completing primary education. The HPI as used in the international report of the UNDP uses illiteracy as an indicator of deprivation in education. However, it was argued that with the spread of education and given the manner in which literacy is defined in the census reports, there was need to replace the indicator illiteracy with some other indicator which would reflect deprivation in formal education. Given the fact that for the rapidly growing economy of Maharashtra human resource development is of utmost importance, the indicator drop-out rate in standard VII was considered adequate to represent inability to complete primary education as a deprivation indicator in education.

In the case of health, data on indicators such as not expected to live upto the age 40 or infant and child mortality rates are not available at the district level. Since undernutrition is an important issue in Maharashtra, it was considered necessary to include this indicator in the HPI and give it more weight than that accorded to it in the international formula of the HPI. However, data on undernourished children though reliable is not available for a few of the districts. This indicator was then combined with another indicator which would reflect the health status of women. Percentage of unsafe deliveries was used on the basis of the argument that unsafe deliveries are a result of lack of access to proper medical services. Hence, the health dimension in the HPI constructed for Maharashtra has two indicators which reflect the health status of children and women namely, percentage undernourished children below 2 years of age, -2SD, weight for age, 1997 and percentage unsafe deliveries, 1998-99.

The standard of living dimension of the HPI as stated earlier uses the indicators which may be termed as 'input' indicators – access to health services and access to improved water source along with an 'output' indicator percentage of children undernourished. Keeping in mind, the distinction between output and input indicators which are determined by policy, it was considered necessary to represent this dimension of the HPI by using an output indicator which would reflect deprivation in attaining minimum living standards. Hence, percentage of people living below the poverty line was considered adequate to be included in the HPI.

The Human Poverty Index for the state of Maharashtra has been presented in Table 2.

Implications

- ◊ The district with the lowest HPI is Mumbai and that with the highest value and rank is Nanded.
- ◊ The five districts with the highest value and rank on the HPI – Nanded, Gadchiroli, Parbhani, Jalna and Buldhana – three of these belong to Marathwada and two to Vidarbha.
- ◊ The five districts with lower levels of deprivation – Mumbai, Kolhapur, Sindhudurg, Wardha and Sangli – belong to western Maharashtra and Konkan with the exception of Wardha which belongs to Vidarbha. It is interesting to note that on the HDI it was Nagpur which was amongst the first five districts.

Table 2:The Human Poverty Index and the Human Development Index for Maharashtra

No.	District	HPI 1993-1998	Rank	HDI 2000	Rank
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1	Mumbai	6.48	1	1.00	1
2	Thane	14.10	8	0.82	2
3	Raigad	16.65	11	0.70	5
4	Ratnagiri	15.85	10	0.44	20
5	Sindhudurg	10.36	3	0.60	8
6	Nashik	17.03	12	0.51	12
7	Dhule	20.64	23	0.36	27
8	Jalgaon	19.78	21	0.50	13
9	Ahmednagar	19.20	17	0.57	10
10	Pune	13.87	6	0.76	3
11	Satara	14.01	7	0.59	9
12	Sangli	13.80	5	0.68	6
13	Solapur	18.73	16	0.48	16
14	Kolhapur	9.20	2	0.64	7
15	Aurangabad	19.31	18	0.57	10
16	Jalna	22.19	27	0.27	28
17	Parbhani	22.50	28	0.43	22
18	Beed	21.21	24	0.47	17
19	Nanded	23.39	30	0.37	26
20	Osmanabad	18.22	14	0.38	25
21	Latur	17.66	13	0.47	17
22	Buldhana	21.56	26	0.41	23
23	Akola	19.41	19	0.44	20
24	Amravati	18.58	15	0.50	13
25	Yavatmal	21.44	25	0.22	29
26	Wardha	13.27	4	0.49	15
27	Nagpur	15.21	9	0.71	4
28	Bhandara	20.26	22	0.46	19
29	Chandrapur	19.54	20	0.41	23
30	Gadchiroli	23.14	29	0.21	30
Maharashtra		16.22		0.58	

Source: Data for the construction of the HPI has been taken from Government of Maharashtra 2002

The HDI and the HPI

For a better understanding of the comparative position of the districts it was considered necessary to juxtapose the ranking on the HDI with that on the HPI (See Box 1). The districts were classified on the basis of their ranks. Hence, districts with ranks 1 to 10 could be considered to be better performers than those with ranks 21 to 30. This roughly corresponds with districts above and below the state average. The following is observed:

- ◊ The districts with better performance on the HDI and the HPI are Mumbai, Thane, Nagpur, Pune, Kolhapur, Sangli, Sindhudurg, Satara – which belong the western parts of the state except Nagpur.

- ◊ The districts with lower ranks on both the HDI and the HPI are Parbhani, Buldhana, Yavatmal, Nanded, Jalna, Gadchiroli and Dhule – belong to the eastern part of the state except the tribal district of Dhule.

- ◊ Wardha and Ratnagiri are districts which have middle order ranks on the HDI but have better performance with lower ranks on the HPI. The explanation to this may lie in the use of a different set of indicators for the construction of the HPI. Since income as represented by the per capita district domestic product has not been used in the HPI, these two districts which have middle order ranks on the indicator income fare better on the HPI.

- ◊ Raigad, Ahmednagar and Aurangabad with higher ranks on the HDI but lower ranks on the HPI need serious consideration. This reflects distributional dimensions of development. It highlights intra-district disparities which have implications for equal access or equal opportunity to facilities and services.

Box 1: A Comparative Position of the Ranks of the Districts on the HDI and the HPI

21-30		Jalgaon, Beed, Bhandara	Parbhani, Buldhana, Yavatmal, Nanded, Jalna, Dhule, Gadchiroli
11-20	Raigad, Ahmednagar, Aurangabad	Nashik, Solapur, Latur, Akola, Amravati	Osmanabad, Chandrapur
1-10	Mumbai, Thane, Nagpur, Pune, Kolhapur, Sangli, Sindhudurg, Satara	Wardha, Ratnagiri	
HPI Ranks	1 – 10	11 – 20	21 - 30
	HDI Ranks		

VI Concluding Remarks – The Human Development Backlog

The paper is a preliminary attempt at examining inter- district disparities in development from the human development perspective. It is an attempt to indicate that the HDI which was a starting point at examining these disparities in human development attainment is a simple index which reflects average levels of attainment in selected dimensions. There is need to examine further than what the HDI reveals. This is done by incorporating

indicators which represent dimensions of development important in the context of this state. The HPI constructed has incorporated deprivation indicators in the three dimensions of development as suggested by the HDI. While most districts retain their ranking as better or worse performers and belong to specific regions of the state, there are certain districts which merit attention.

There is scope for further work. The HPI can be constructed using more sophisticated outcome indicators for which datasets need to be created. It also needs to include indicators for which data is available eg morbidity. Morbidity data pertain to both 'diseases of poverty' as well as those induced by 'affluent living conditions'. With the focus on diseases afflicting the poor, the diseases can be classified as those due to poor living conditions and those diseases preventable by immunization. The diseases included in the category 'diseases due to poor living conditions' can be typhoid, pneumonia, tuberculosis, gastroenteritis, cholera, dysentery, diarrhoea, jaundice and fever including influenza. The diseases in the category ' diseases preventable by immunization' include diseases such as measles, whooping cough, diphtheria, polio and tetanus.

Minimum levels of deprivation can be identified with respect to average human development levels achieved by the administrative division to which the district belongs or the state as a whole. The difference in attainment level of the district and the average for the administrative division or the state as a whole may be termed as the ***Human Development Backlog***. The concept of the Human Development Backlog is different from the backlog calculated by the Dandekar Committee on Regional Imbalances (GoM, 1984) and the Indicators Committee Report (GoM,1997). In both these Reports, the backlog has been identified in terms of the infrastructure facilities –physical and social - that are lacking in the district. Hence, the financial allocations, which would be needed to reduce or remove this backlog could be easily be worked out and hence become the focus of the Reports. The Human Development Backlog as envisaged in this paper is based on the distinction between 'input' or 'process' indicators and 'output' or 'attainment' indicators. The backlog is to be measured in terms of the 'output' indicators or 'attainment'. Hence, district A lags behind district B because it has a higher drop out rate than B. It does not measure the backlog in terms of the financial requirements but in terms of the level/status of human development attainment. It also means that even

though infrastructure in both the districts may be the same and hence will show no relative backlog in the 'usual'sense, yet there will be backlog in terms of attainment of human development indicators such as educational attainment.

To calculate the ***Human Development Backlog*** three indicators of human development, namely, drop out rate, morbidity and undernutrition along with a social factor namely percentage of girls married below 18 years could be taken into consideration. Then, the next step would be to identify the present levels of attainment and the extent of the backlog. Minimum levels of deprivation can be identified with respect to average human development levels achieved by the respective administrative division to which the district belongs or the state as a whole. The difference in attainment level of the district and the average for the administrative division to which the district belongs or the state average may be termed as the ***Human Development Backlog.*** Following this, what can be achieved in the next three years could be worked out. Targets for these districts can be determined on the basis of say, 50 percent reduction in the backlog, which needs to be met in the next three years. This may be termed as the ***Removal of the Human Development Backlog.*** The program for such backlog removal will be a holistic one, which will involve the government with its funds and delivery agencies, the society at large, and, the civil society organizations playing their respective roles. There will be scope for district specific programs.

It would be necessary to identify the input indicators, which would help bridge the backlog and focus on delivery. These inputs would aim at improving access and utilization of publicly provided services. It would also ask for investment in publicly provided services if not available. Availability and use of infrastructure facilities is only one aspect of the inputs required for the removal of the backlog. The cooperation from the people themselves is needed. Increasing the consciousness or building awareness is an important factor affecting attainment and thereby reducing the backlog. Also, improving the livelihood status may be a prerequisite to reduction in the backlog. Water is the most important problem faced by most districts of Maharashtra. It may be of importance to tackle this problem to improve human development attainment. Hence, partnership between the government, community and NGOs would be necessary to identify and implement a program to reduce the backlog in human development.

References

Filmer and Pritchett, 1998, What Educational Production Functions Really Show, Policy Research Working Paper, 1795, World Bank, Washington D.C., cited in World Bank, 1998, *Reducing Poverty in India- Options for More Effective Public Services*, Washington D.C.: World Bank.

Government of India, 2002a, *National Human Development Report 2001*, Oxford University Press, New Delhi.

Government of India, 2002b, *Tenth Five Year Plan 2002-2007*, Volume I- Dimensions and Strategies, Planning Commission, New Delhi

Government of India, 2002c, *Tenth Five Year Plan 2002-2007*, Volume III, State Plans: Trends, Concerns and Strategies, Planning Commission, New Delhi.

Government of Maharashtra, 2002, *Human Development Report Maharashtra*, Mumbai

Government of Maharashtra, 1997, *Relative Levels of Development, Backlog and Removal of Regional Imbalances*, Volume I, Planning Department, Mumbai

Government of Maharashtra, 1984, *Report of the Fact Finding Committee on Regional Imbalance*, Planning Department, Mumbai

Sen Amartya, 1984, *Resources, Values & Development*, New Delhi: Oxford University Press.

Sen Amartya, 1987, 'The Standard of Living: Lecture II, Lives and Capabilites' in Amartya Sen, John Muellbauer, Ravi Kanbur, Keith Hart and Bernard Williams, *The Standard of Living*, The Tanner Lectures, 1985, Cambridge University Press, Cambridge, pp. 20-38.

Sen Amartya, 1992, *Inequality Reexamined*, New York: Russell Sage Foundation, Clarendon Press, Oxford

Sen Amartya, 1993, 'Capability and Well-Being' in (ed.) Martha Nussbaum and Amartya Sen, *The Quality of Life*, A Study Prepared for the World Institute for Development Economics Research (WIDER) of the United Nations University, Oxford University Press, New Delhi, pp. 30-53.

Sundaram K. and Suresh D. Tendulkar, 2003, 'Poverty in India in the 1990s: An Analysis of Changes in 15 Major States', *Economic and Political Weekly*, Volume XXXVIII (14), April 5, pp. 1385- 1393.

United Nations Development Programme (UNDP), 1990, 1995, *Human Development Report*, Oxford University Press, Oxford.