

Measuring Key Disparities in Human Development: Rationale for Broadening and Micro Perspective

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The first Human Development Report (HDR) of United Nations Development Programme (UNDP) in 1990, for the first time, laid out a vision of human development that covers key aspects of well-being of people. It was born out of dissatisfaction with conventional measure of economic development based on Gross Domestic Product (GDP) and per capita income. UNDP, as an international development agency, played a pioneering role in developing human development as an alternative development paradigm and Human Development Index (HDI) as a composite measure of human well-being. It publishes every year HDR, comprising HDIs to measure achievements in human development in every nation since 1990. The HDI is now a well-known yardstick of measuring well-being of people. It succeeded in challenging the hegemony of GDP growth-centric thinking and moving towards people-centric development. Its simplicity and the transparency assured by the availability of published data have been the main drivers behind the success of HDI in the last two decades.

Notwithstanding its success, there were criticisms particularly on choice of variables used in the HDI and its computational methodology. As a multiple-dimensional measure of human development, the HDI was restricted to only three variables: health, knowledge and standard of living. It would have been a useful policy and planning tool if it served to analyse disparities and deprivations of all key dimensions affecting well-being of the people. Moreover, since the HDIs are computed on macro-level aggregate average data, they have failed to reflect disparities and deprivations in several dimensions of human development, which are critical for well-being of people at grass root level. In 2010, for the twentieth anniversary edition, the HDR undertook a comprehensive review of some of these criticisms and introduced major innovations in measurement and to address the key

dimensions of inequality and deprivations. It has also allowed users to build their own development index by taking into consideration grass root human development deprivations and concerns.

The purpose of this paper is to explain the rationale behind the recent changes made in the choice of variables and methodology adopted for computation of new HDI as yardstick for measuring human development. There is also need for broadening HDI beyond three dimensions and to have micro-level perspective to capture disparities in deprivation in most of the key dimensions affecting well-being of people where they live. A brief overview of the move towards human development approach and key insights involved is presented in section one as a backdrop. In section two and three, the conceptual and methodological framework of HDI as a measure of human development and the main criticisms that were levelled against it are highlighted. Section four outlines briefly changes introduced recently to the HDI indicators and methodologies. In subsequent sections, an attempt is made to explain the rationale for broadening the measure of HDI and need for micro level perspective to make it a more meaningful and an effective policy and planning instrument for human development.

Towards Human Development Approach

Increasing GDP and per capita income were considered in the past as primary goal of economic development. The development experience of many countries had, however, empirically shown that the GDP growth miserably failed to reduce socio-economic deprivation of substantial section of their population. The conventional measure of economic growth in terms of GDP and per capita income also do not capture the basic aspects of human well-being. In the words of Mahbub ul Haq, the architect of the first UNDP HDR "any measure that values a gun several hundred times more than a bottle of milk is bound to raise serious

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questions about its relevance for human progress" (ul Haq, 1995). This led to the realization that development process is a far more complex phenomenon than mere growth in domestic product alone and there is a need to reflect the level of well-being of the people.

As the income centric paradigm did not capture the various dimensions of human well-being, the need was felt to have a broader people-centric approach. It emphasized the need to focus on people - their needs, aspirations, capabilities and choices without discrimination by class, gender, race, nationality, religion, community or generation - as the main focus of the development efforts. As people are the wealth of nations, the development should put people at the centre of its concerns and not the means of production. People are, ultimately, both the beneficiaries and the drivers of human development. The purpose of development should, therefore, aim at expanding their capabilities, choices and opportunities to enable them to lead lives they value most .

The emphasis on well-being of people is not something new; in fact, it dates back to Aristotle, who distinguished a good political arrangement from a bad one by its successes and failures in enabling people to lead "flourishing lives". Adam Smith, the founder of economic science and the apostle of free enterprise, viewed that the economic development should enable a person to mix freely with others without being ashamed to appear in public. The development of human capability in leading a worthwhile life as well as in being more productive was quite central to Smith's analysis of "the Wealth of Nations" (Smith, 1776) The first HDR defined human development in the following terms:

"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 standard of living. If these essential choices are not available, many other opportunities remain inaccessible" (UNDP, 1990).

The basic objective of human development, by definition, is to enlarge people's choices. Fundamental to enlarging people's choices is the expansion of human capabilities to do what they want and what they value. The term capabilities refer to the opportunities that a person has to exercise his or her 'freedom to attain different kinds of alternative lives between which a person can choose" (Sen, 2008). At all levels of development, three basic capabilities are considered essential for human development. They are to lead long and healthy lives, to be knowledgeable and to have access to the resources needed for a decent standard of living. There are, of course, other choices valued by people. These include political, social, economic and cultural freedom, community participation without discrimination, opportunities for being creative and productive, self respect and human rights. The objective of development, therefore, should be to create an enabling and conducive environment in which "people can develop their full potential and lead productive, creative lives in accordance with their needs and interests" (UNDP HDR, 2001) .

It is, however, important to note that the emphasis on human development does not mean dismissing GDP measure and economic growth. Economic growth is essential. No sustained improvement in human well-being is possible without economic growth. While economic growth focuses exclusively on the expansion of only one choice - income, the human development approach embraces the enlargement of all human choices, whether economic, social, political or cultural. The expansion of income can enlarge some human choices but it is not necessarily automatic. The accumulation of wealth may not be necessary for fulfillment of several kinds of choices.. The human development paradigm questions the presumed

¹ As pointed out by Mahbub ul Haq "The basic purpose of development is to enlarge people's choices. In principle, choices can be infinite and can change over time. 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 crime and physical violence, satisfying leisure hours, political and cultural freedoms and sense of participation in community activities. The objective of development is to create an enabling environment for people to enjoy long, healthy and creative lives" (UNDP, 1990) The human development approach, in fact, had arrived only because of intellectual efforts of Mahbub ul Haq and Amartya Sen

automatic link between expanding income and expanding human choices. The development experience also empirically proved that economic growth does not trickle down to benefit majority. The achievement of higher growth should be judged in terms of its impact on the well-being of all people. People are regarded as the ends and income becomes one of the essential means for well-being of people. Every issue in the growth centric approach should be viewed from the vantage point of people.

HDI as Measure of Human Development

The human development being multi-dimensional, the measuring of it involved using multiple human capabilities and capturing them in an aggregate index as a firm basis for evaluating achievements in well-being of people. As the quantification and availability of reliable data of most of the human development capabilities posed problem, UNDP has considered health, knowledge and standard of living as the essential and critical capabilities of human life for developing HDI as a composite measure of human development. The underlying assumption is that without these basic capabilities, people cannot have other choices and opportunities. The HDI was computed as a simple arithmetic average of three dimension indices of health measured by life expectancy at birth (LEB), education computed as a combination of adult literacy (two-third weight) and enrolment ratios at the primary, secondary and tertiary levels (One-third weight) and command over resources for standard of living measured by per capita real GDP adjusted for purchasing power parity in dollars (PPP\$) to ensure international comparison.

While computing HDI, each of the dimension indices were considered as of equal importance for human development and estimated as normalized indicators of achievements. The indices were normalized using minimum and maximum goalposts. The reason for normalizing each dimension was to transform indicators into indices between 0 and 1, thus to give equal relevance to each dimension and to allow the arithmetic sum of the indices. The lower bound was considered

as minimum and the upper bound as a 'satiation' point beyond which additional increments do not contribute to expansion of human capabilities. Thus, the HDI is the arithmetic mean of three dimension indices: living a long and healthy life, having access to knowledge and a decent standard of living. Besides HDI, UNDP also computed the Gender-related Development Index (GDI), Gender Empowerment Measure (GEM) and Human Poverty Index (HPI) to measure the gender empowerment and deprivation.

Critiques of HDI as Measure of Human Development

Since its introduction, the HDI has attracted enormous interest in discussions of development, both in policy and academic circles as well as in the broader community interested in development issues. Its popularity can be attributed to the simplicity of its characterization of development - an average of achievements in health, education and income - and to its underlying message that development is much more than economic growth. Its simplicity and transparency has also contributed to its world-wide acceptance as an alternative to GDP in measuring well-being. The HDI has, for the first time, provided an empirical yardstick to rank countries based on attainment in multiple dimensions of human development. It has become a bench mark for judging country-wise human development standards.

In spite of its popularity, there were criticisms centred on its simplicity, choice of dimensions and indicators, its computational methodology and its policy relevance. The HDI was viewed as an overly simplistic and crude measure, which has little, if any, conceptual and theoretical basis. It captures only few relevant dimensions and its choice of indicators is severely restricted by data availability. The reality about human development and deprivations are very complex, broad and abstract. Any aggregate measure with some specific dimensions across countries necessarily entails a significant degree of generalization and approximation. The ranking of countries and policies

² According to Dr Haq, the human development is the most holistic development model. It embraces every development issue, including economic growth, social investment, people's empowerment, provision of basic needs and social safety nets, political and cultural freedoms and all other aspects of people's lives. It is neither narrowly technocratic nor overly philosophical. It is a practical reflection of life itself. (Mahbub al Haq, 1995)

based on such an aggregate measure are, therefore, questionable.

The criticisms on the choice of variables used in the HDI are of two types. First, the HDI is considered as too narrow measure and includes only three capabilities. It excludes other equally important capability dimensions such as equity, freedoms, human rights, social security, political voice, sustainability and happiness - just to name a few. As the HDI captures only a restricted subset, it is considered as a very imperfect or partial measure of human development. Second form of criticism centered on indicators used to measure these dimensions. The critiques have pointed out that the indicators used to measure do not truly capture intra-dimensional inequalities and performance variations across countries in the relevant dimensions (Klugman et al, 2011). For example, life expectancy as a measure of longevity does not tell us anything about the health profile of people during the time that they are alive. It only captures one of the ingredients of "a long and healthy life". The quality of health care, availability, accessibility and affordability are critical in health dimension but they are not reflected. Similarly, literacy and enrolment ratios tell us nothing about the quality, accessibility, affordability, knowledge, skill development and competence.

The per capita GDP as proxy to standard of living, also, on the other hand, do not capture non-market basic requisites of livelihood such as housing, amenities, clothing, nutrition, sanitation and safe drinking water. The drawbacks of per capita GDP as a measure of wellbeing and its failure to capture inequality, poverty and deprivation are well known and aptly summarized by the report of the Commission on the Measurement of Economic and Social Progress (Stiglitz et al, 2009). Moreover, unlike health and education, income is not a direct measure of welfare or capabilities. It is only an input into these capabilities (Anand and Sen, 1995). The relevant capabilities include adequate nourishment, shelter, clothing and access to participation in the basic life of society to ensure a decent standard of living. Another area of controversy is the use of GDP instead

of Gross National Income (GNI). The GDP does not include net income transfers from other countries. With globalization, the transfers from other countries constitute a significant portion of the national income. Mere inclusion of per capita GDP as proxy to command over resources in HDI is, therefore, misleading

The simplicity of functional form of the HDI and relationships between different dimensions attracted much attention in the academic debate. Key concerns relate to substitutability assumptions, normalization of indicators, asymmetric treatment of income and choice of weights (Ravallion, 2010)). The issue of substitutability across dimensions and the additive form of the HDI has been raised by several researchers. It is argued that the HDI assumes perfect substitution across dimensions and this allows additive form of HDI. Though there may be correlation between per capita income, education and health, the underlying assumptions of linear relation and constant marginal rate of substitution between dimensional achievements are unrealistic and questionable. The policies to maximize the HDI cannot emphasize one dimension and disregard the others because all are equally important.

Related to this, another contentious issue is equal weights attached to core dimensions (Segura and Moya, 2009). Ideally, the weights to dimensions in the HDI should be country specific as the relative importance of them varies from country to country. They should be derived from empirical exercise or a strong normative argument. With equal weights, it has been shown that by adding the logarithm of GDP per capita to the level of life expectancy, the HDI implicitly values an extra year of life expectancy in the U.S.A. as worth twenty times an additional year of life in India (Stiglitz et al, 2009). Dr. Huq, however, justified equal weights on the simple premise that "all these choices were very important and that there was no a priori rationale for giving a higher weight to one choice than to another" (Huq, 1995). Still, it is hard to believe that weights attached to the multiple dimensions could be the same for all countries, all people within a country and all the time.

³ For example, Srinivasan pointed out " the HDI is conceptually weak and empirically unsound. Meaningful inferences about the process of development and performance as well as policy implications could hardly be drawn from variations in HDI" (Srinivasan, 1994)

The use of arithmetic additive formula to aggregate dimensional indices was another area of concern. It assumes that the results are sensitive to the choice of normalization. The problem emerges from the fact that the ordering produced by an additive arithmetic functional form is not invariant to the scale used for measurement of the dimensions. The choice of normalization designed to use the index on the 0-1 range, can have significant implications for the index values and rankings. Different normalizations will imply different marginal effects of each variable's improvements on the HDI. The choice of normalization implies a choice of implicit weights (Ravallion, 1997). With constant elasticity of substitution, in arithmetic formula, multiplying any of the components by a scalar factor would lead to a change in the relative weight of the variable. It implied that the level of priority to be given to a dimension was invariant to the level of attainments (Desai, 1990). The lack of scale invariance was addressed by normalizing all the dimensions between zero and one. But, it introduces another problem, which is the sensitivity of the index to the chosen minima and maxima (Ravallion, 1997).

Since 1994, the HDI had used the fixed upper and lower bounds. The practice of truncating at the upper bound was criticized on the ground that it distorts the ranking. For example, in 2009, more than 12 countries had their per capita income capped at \$40000 for the purpose of HDI calculation. The idea that increases in average income beyond \$40000 make no contribution to capabilities seems rather unrealistic. Depending on the development stage, increase beyond \$40000 could reflect improvements in the livelihood and life quality improvements for those below the capped average income. A similar problem would arise when countries start surpassing truncated upper bound of 85 years on life expectancy (Klugman et al, 2011).

The critiques also pointed out that instead of aggregating perfectly substitutable variables, analyzing disaggregated information on each of the component dimensions and ranking based on this is more meaningful and useful. Empirically, it was found that

the country rankings differ significantly between HDI and index components and there are very different patterns of changes over time. The summarizing component indices in an aggregate index are something unnecessary and obscure (Ravallion, 2010).

New HDI and its Rationale

In 2010, for the twentieth anniversary edition, the HDR undertook a comprehensive review of the criticisms and introduced several key changes to the HDI. The changes introduced are mainly in three areas: indicators for education and income, method of aggregation from arithmetic average to geometric average and upper and lower bounds used to normalize the index. The key changes introduced and rationale for the same are adumbrated below.

Choice of dimensions and weights

In spite of criticisms on choice of dimensions, the three-dimensional structure of the HDI with equal weights was retained. The 2010 HDR has decided not to introduce any new dimensions into the HDI on several grounds. While not arguing for primacy of core dimensions over other dimensions, it distinguishes two types of freedoms that are valued by the human development approach: Opportunity freedoms which give us greater opportunities to achieve those things one value most and process freedoms through which things happen is fair. Using this distinction, the HDI identifies itself as an index of opportunity freedoms. Measurement and data problems make incorporation of other dimensions into the HDI very difficult.

The choice of relevant capabilities for human development is purely a value judgment rather than a technical exercise. The 2010 HDR justified three-dimensional index on the ground that "the objective is not to build an unassailable index of well-being; it is to redirect attention towards human-centered development and to promote debate over how we advance the progress of societies. The more we discuss what should or should not be included in the HDI - whether it make sense to lump distinct categories together, how much importance to accord to each

⁴ HDR of Kerala which was top ranking state in HDI in India has highest ranks in health and education but lower per capita income. This is mainly due to non-inclusion of remittance from abroad which is one of the largest in the country.

⁵ For detailed discussion see Desai (1991), Palazzi and Lauri (1998) and Nathan et al. (2008).

category, how to obtain more and better data - the more debate moves away from the single-minded focus on growth that pervaded thinking about development" (UNDP, 2010). It has also allowed countries to build their own HDI by taking into consideration country-specific human development deprivations and concerns.

Indicators

The change in the indicators took into consideration measurement improvements, conceptual reconsideration and current relevance. The life expectancy is retained as the indicator for health dimension as it reflects the final outcome of health as regards human development is concerned. For knowledge dimension, mean years of schooling for adults aged 25 and older and expected years of schooling for a school-age child are considered instead of adult literacy rate and combined gross enrolment ratios. The per capita Gross National Income (GNI) is substituted per capita GDP as the measure for access to resources for decent standard of living. Instead of previously used logarithm with the base of 10, the natural logarithm is adopted for income indicator.

The replacement of the adult literacy by mean years of schooling of adult population is mainly to reflect improvement in education dimension and to ensure present relevance.

Almost half of the countries have literacy rate higher than 95 percent. The developed countries no longer collect data on basic literacy and most of the developing countries are poised to attain universal literacy in near future. While literacy was a good measure to evaluate education in the past when illiteracy was the main domain in education dimension, it has lost importance in the present and future context. Similarly, the enrolment ratio is replaced with a measure of expected years of schooling of future generation based on prevailing enrolment. This would capture the average number of years that children today could be expected to attain in adulthood if enrolment rates remain at the current levels. The education index is accordingly

framed as a measure of years of schooling, with the education of current and future generations receiving equal weights.

The new HDI replaces per capita GDP with per capita GNI as income as proxy for command over resources should include net transfer of income from other countries, In a globalized world, with the increasing world trade and movement of capital and labour, the differences are increasingly becoming large between income of a country's residents and its domestic production. In countries like Philippines, GNI exceeds GDP. In ultimate analysis, income should reflect people's command over resources irrespective of source of income.

Computational methodology

Perhaps the key change introduced was the shift from arithmetic mean to geometric mean to aggregate dimensional indices. The shift to the geometric mean is mainly to address the issue of perfect substitutability between three core dimensions used. For the switch from the original additive aggregation formula (arithmetic mean) to the multiplicative function (geometric mean), the 2010 HDR offers the following explanation:

"Poor performance in any dimension is now directly reflected in the HDI, and there is no longer perfect substitutability across dimensions. This method captures how well rounded a country's performance is across the three dimensions. As a basis for comparisons of achievement, this method is also more respectful of the intrinsic differences in the dimensions than a simple average is" (UNDP, 2010).

The new HDI based on the geometric mean takes into account differences in achievement across three dimensions. Poor performance in any dimension is now directly reflected in the new HDI. A low achievement in one dimension is not anymore linearly compensated for by high achievement in another dimension. The geometric mean reduces the level of substitutability

⁶ In a global report like HDR, "any choice of weights should be open to questioning and debating in public discussions" (Anand and Sen, 1997).

⁷ While developed countries already reached the highest level of literacy, provision of two-third weight for literacy in education dimension is not justifiable.

between dimensions. The geometric mean values an increment in any of the dimensional indices equally. A one percent decline in index of say life expectancy at birth has the same impact on the HDI as one percent decline in education or income index. Unlike the arithmetic mean, the rankings produced by the geometric mean are invariant to the scale in which each variable is measured. Thus, the geometric mean method of aggregation is more "respectful of the intrinsic differences across the dimensions than the earlier simple average method of aggregation" (UNDP, 2010). While the normalization of all the dimensions between zeros to one is maintained, the maxima used in the normalization become irrelevant for new HDI rankings. The choice of minimum, in contrast, will have significant implications for rankings in the geometric mean method. Raising the minimum level affects the relative rankings in contrast to the maximum. The choice of minimum therefore requires a careful consideration. The lower bounds can best be perceived as subsistence values. For formal education, minimum set to zero for both mean years of schooling and expected years of schooling. In the case of longevity, there is good empirical evidence that minimum life at birth attained by any society is around 20 years. The lower bound for life expectancy was set at 20. In order to reach a more reasonable estimate of the subsistence income level, the 2010 HDR considered contemporary data and set \$163 in 2008 PPP dollars, which was the level observed in Zimbabwe in 2008.

AS regards maximum value in each dimension, instead of a pre-determined cut-off beyond which achievements are ignored, the observed maximum across countries is considered. Accordingly, the upper values are set to observed maxima over the time series between 1980 and the most recent year available. For life expectancy, upper bound was set at 83.2 years, which was observed Japan's maxima life expectancy. For education, it is observed maxima for mean years of schooling and expected maxima for school expectancy. Similarly, the upper bound for GNI per capita is set at \$108211 which was observed maxima for United Arab Emirates in 1980.

Another important change was the use of natural logarithm instead of the previously used logarithm with the base of 10 for income indicator. This change was mainly to eliminate the binding income cap. Using natural logarithm ensures that not only income is transformed into capabilities at diminishing returns but also future revisions to the formula based on increase in the maxima attained levels will have no effect on the HDI rankings.

Thus the new HDI is the geometric mean of normalized indices measuring achievement in three core dimensions of human development and computation methodology briefly as follows.

Dimensions	Measurement Indicators	Minimum Goal post	Maximum Goalpost	Dimension Index
Long and Healthy life	Life expectancy at birth	20 years	83.2 years	Health Index
Knowledge	Mean years of schooling	0	Observed Maxima	Education Index
	Expected years of schooling	0	Expected Maxima	
Standard of living	GNI per capita (PPP\$)	163	\$108211	Income Index
Aggregation (Geometric Mean)	Human Development index			

The dimension sub-indices are computed on the basis of the following general formula:

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

The 2010 HDR has also introduced three new measurement innovations to address the key concerns of inequality, gender equity and poverty. Three new measures introduced were: Inequality-adjusted Human Development Index (IHDI) to capture inequality in each dimension of the HDI; Gender Inequality Index (GII) to take into consideration gender equity and Multidimensional Poverty Index (MPI) to take into account multiple deprivations. They are computed in the same framework as HDI.

Inequality in core dimensions is a major area of concern as the aggregation and averages can be misleading. It, therefore, deserves serious consideration. The 2010

⁸ The intellectual framework of capability approach was provided from Sen's works: Commodities and Capabilities (1987) and Rationality and Freedom (2002). The distinction is made between functioning capabilities and freedom which emphasizes empowerment of people to choose opportunities open to them.

HDR rightly recognized its importance and made attempt to introduce IHDI. The IHDI reflects inequality in distribution of health, education and income dimensions. Since it accounts for inequality in HDI components, it can be compared to the HDI. Under perfect equality, the HDI and IHDI are equal. There is no inequality in core dimensions across people within the country. If IHDI is less than the HDI, inequality in core dimensions exists. The differences between the HDI and the IHDI reflect the magnitude of inequality and the loss in the potential human development in a particular country. IHDI also measures the extent of inequality in core dimensions across countries.

The GII and MPI are partial measures and not holistic measure of human development like HDI. They can only supplement HDI. The GII measures disadvantages faced by women and girls. It exposes differences in the distribution of achievements between women and men. It takes into account discrimination in health, empowerment and the labour market. For female-specific health dimension, maternal mortality rate and adolescent fertility rate are considered as indicators. For empowerment, attainment in secondary and higher education and political participation are the indicators considered. In the case labour market, women work participation is taken into account as indicator.

The poverty is, like human development, multi-dimensional. The MPI introduced captures multiple deprivations and their overlap at the individual level. The index identifies deprivations across three dimensions as the HDI: in health, education and living standards. It can be deconstructed by region, ethnicity and other groupings as well as by dimension, making it an apt tool for policy makers. Unlike other two, it uses micro data from household surveys.

Rationale for broadening HDI

No doubt the new methodology introduced by the 2010 HDR is a vast improvement and takes into account most of the criticisms. It has also three new innovative measures to take into consideration distribution aspects of human development. However, the HDI, as an aggregate measure, still remain too narrow and

restricted to only three dimensions of human development. Other equally important dimensions are ignored. Three separate measures introduced consider only inequality and deprivation aspects of well-being of people. They cannot be considered real measures of human development. Moreover, the indicators used for the three core dimensions in the new HDI do not reflect their contextual status as the relative importance of them varies from country to country and over time depending on the stage of economic development. The same weights for all indicators for all countries and all people within a country also appear unrealistic. Hence, the HDI cannot be considered as a holistic measure of human development as it captures only part of what human development entails. It can be considered only as a partial measure.

Human development defined as a process of enlarging people's choices, cannot be restricted to only freedom to be healthy, to be educated and to enjoy a decent standard of living. It is a broader concept and embraces widening functional capabilities and choices of freedoms that people value. The composite measure of such a multi-dimensional human development has to go, therefore, beyond three core dimensions to encompass a much broader range of capabilities. It should include inter alia people's active engagement in shaping development, equity, empowerment, sustainability, human rights, political freedom and ability to live without shame and discrimination. The multi-dimensional view of human development, thus, warrants aggregating all these capabilities and choice variables in a composite measure. As pointed out by Samuelson "there is nothing intrinsically reprehensible in working with such aggregate concepts" (Samuelson, 1983). Lack of quantification or data problems are no reasons for neglecting or ignoring them. The need to broaden the measurement of human development beyond core dimensions, therefore, requires hardly any justifications.

For assessing well-being of people also requires plurality of indicators in most of the dimensions. For example, life expectancy as indicator of health dimension should

⁹ Since Gender Development Index (GDI) and Gender Empowerment Index (GEM) combine absolute and relative achievements and suffer from urban elite bias and other shortcomings including lack of data and misinterpretation, they have been discontinued and replaced by GII.

reflect health status of people, quality of health care, access to health care, affordability of health care etc. Similarly, education should include quality and quantity dimensions of knowledge and empowerment. Besides mean years of schooling, quality of education, access and affordability of higher education, skill development and employability etc, are important indicators of knowledge dimensions. The standard of living cannot ignore nutrition, safe drinking water, electricity supply, sanitation, better shelter, satisfying and continuing employment and secure livelihoods. The challenge of human development research is to aggregate this array of indicators of various dimensions in a parsimonious way to make HDI a broader and more holistic measure of human development.

Thus, considering the multi-dimensional nature of human development, the ideal and more policy relevant composite measure of human development should take into account not only most of the critical dimensions of human development simultaneously but also plurality of indicators relevant to measure their contextuality and country performance. It is also important to choose potential indicators with country-specific weights based on the relative importance for well-being of their people. The specific country and policy context should determine what trade off to be considered appropriate both within and between dimensions as any given dimension has different priority in different countries. Research has also shown that it is possible to quantify and collect reliable data on both objective and subjective dimensions.

While choice of dimensions and indicators inevitably rest on value judgement, there is a broad consensus that the HDI, as an aggregate measure of human development, should have broader human development perspective and include a range of relevant dimensions that make life worth living. Measuring all these dimensions, of course, requires both objective and subjective data. Research in various disciplines has already shown that it is possible to compile meaningful and reliable data on both objective and subjective

dimensions of human development. The challenge is to improve upon what has already achieved, to identify gaps in available information and to invest in statistical capacity where available indicators remain data deficient.

Need for Micro Perspective

No doubt, at the international level, the HDI has become popular yardstick for ranking countries. The question would, however, arise: whether the HDI, as an aggregate measure based on macro level average data, has any relevance as an instrument of policies and for formulating strategies for human development. While it is informative to track the human development at macro level, peoples' choices and capabilities and well-being can be better tracked only at micro level. The human functional capability development and choice of freedom on what they value are ultimately dependent on the environment in which they live. The actual performance variations, disparities and deprivations in most of the dimensions are also better reflected at household and micro level. The snapshots of ground reality of a range of human capabilities and choice of freedoms can, thus, be captured only from where people are involved rather than from the national or state levels. Moreover, the HDI can be easily broadened to take into account all potential dimensions at micro level, as it is possible to collect meaningful and reliable data at household level.

The aggregation and averages are often misleading particularly at the international and national levels. They do not bring out performance variations and critical policy issues involved at the bottom of the pyramid. Ultimately, human development has to take place in environment where the people live. Hence the real issues affecting human development can be better analysed only at micro level. The micro level perspective also enables, not only to rank districts and communities, but also to evaluate prevailing policies and programmes from human development perspective. With disaggregated analysis, the HDR at the micro level can, thus, become the main vehicle to infuse human

¹⁰ During last two decades, not all countries have witness same level of progress in the core dimensions and indicators used. The variations in progress is striking, suggesting that country factors, such as stage of development, policies, institutions etc are important..

development concerns in policies and programmes and thereby bring the human development agenda closer to the people.

Most of the developing countries have already brought out country-specific HDRs and used the HDI to rank regions and states. The Government of India, for the first time, prepared the National Human Development Report in 2001 providing HDIs both for the country as a whole and state-wise. Following this, efforts were made to bring out such reports at state level. The state HDRs provided HDIs for districts and the state as a whole. They have followed three-dimensional framework of UNDP and served as a tool for ranking states and districts. But their contributions to the planning process and formulation of programs for human development are found to be almost negligible. They have not brought out grass root level disparities and deprivations in several dimensions of human development within the district and at the community level.

The 73rd and 74th Amendments of the Constitution of India mandated decentralized planning at the panchayat levels. The object is to arrive at an integrated, participatory and coordinated idea of development of a local area. An essential step in this direction is to ensure that panchayat at local level is treated as a planning unit and the district plan is built up through bottom-up approach. The process of decentralized planning should be inter alia articulated in terms human well-being at the household level. The household perspective of human development can take into account all potential human development dimensions which include besides health, education and income, housing, water supply, sanitation, women and child welfare, social justice, and availability of other basic services essential for well-being of people. Thus, the HDR can be better policy and planning instrument only if it is prepared at the micro level.

Since Gram Panchayats (GPs) are the bottom of the pyramid, they should be the focal units for preparing HDRs at micro level. The HDR at GP level are critically important to provide baseline information for prioritizing and preparing district plans from a human development perspective. The GP level HDI provides a tool for classifying and ranking GPs based on the performance

in all dimensions of human development and assessing the extent of spatial disparities. Ranking and divergences between rankings in dimensions have serious policy implications for policy makers, while formulating strategies and allocating resources. They provide thrust areas for interventions, action programs and also pointers for monitoring programs in terms of human development perspective.

It is gratifying to note that Karnataka state is the first state in India to recognize the importance of micro level HRDs as integral part of decentralized planning process. In the first phase, it has undertaken preparation of District HDRs (DHDRs) in four districts on pilot basis. Based on the experience of pilot DHDRs, it has now initiated plan for preparation of DHDRs in all 30 districts in the state . It has recommended broader approach to incorporate most of the dimensions affecting human development at grass root level.

Conclusion

Over the past two decades, the human development paradigm has attracted great interest in policy and academic circles. It has put people and their concerns at the centre of development. It has emphasized that development is of the people and for the people. The HDI was accepted world-wide as the best available alternative measure of development to GDP. It has also become a benchmark for judging universal human development standards. There were, however, criticisms mainly on choice of dimensions and their indicators and computation methodology adopted for construction of composite index. The 2010 HDR undertook a comprehensive review of the criticisms and introduced several changes to the HDI to address these concerns.

The most contentious issue still remained is the retention of the three-dimensional HDI as an ideal measure of human development. Human development defined as a process of enlarging people's capabilities and choice of freedoms, cannot be confined to only to be healthy, to be educated and to enjoy a decent standard of living. Considering multi-dimensional characteristic of human development, there is a need for broadening the HDI beyond these three dimensions. Moreover, the indicators used to measure do not reflect

¹¹ In contrast to HDI, the HDRs contains wealth of information and analysis on variety of social, economic, and political features that influence the nature and quality of human life.

all aspects of core dimensions. The relative importance of indicators is also country-specific and varies over time depending on the stage of economic development. The equal weightage for all dimensions and indicators across countries appear unrealistic. The problems of quantification and data are no reasons for neglecting other equally important dimensions and indicators. The real challenge is to develop the HDI more inclusive and more holistic measure of human development and more policy relevant.

It is needless to emphasize that the actual performance variations, disparities and deprivations in most of the dimensions affecting human development are better reflected at micro and household level rather than at global, national or state level. The ground reality of a range of human capabilities and freedoms can be captured only from where people live. It is also possible to broaden the HDI by capturing as many potential dimensions as possible at micro level as the compilation of meaningful and reliable data would be easier at household level.

While the macro level perspective enables to rank countries, regions and states based on status of specific dimension indices as well as on composite index of HDI, the micro level perspective besides ranking bottom level GPs, districts and communities, facilitates evaluation of prevailing policies and programmes and their impact from human development lens. Thus, the approach to human development requires both a bird's eye view and worm's eye view to make it more meaningful and more policy relevant. With disaggregated analysis, the HDR at the micro level can become the main instrument to infuse human development concerns in policies and programmes and thereby, bring the human development agenda closer to the people and reality. The HDI, in its disaggregated avatar at micro level, would definitely become a mirror for policy makers to see how the people in their societies live and breathe and where the thrust areas are for urgent intervention for well-being of people.

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¹² In 2008, the state initiated four pilot projects in Bijapur, Gulbarga, Mysore and Udupi. While first three confined to taluk-level, Udupi has prepared the HDR at Panchayat level. Karnataka is now the first state to initiate DHDRs in all 30 districts with taluk as focal unit..